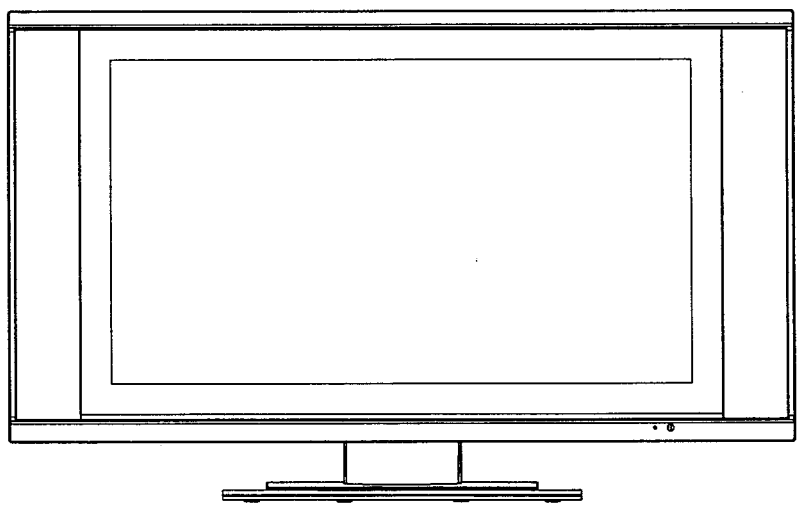
SERVICE MANUAL

ORION

TV-27300 / TV-27300SI

27" LCD COLOR TELEVISION



Best. Nr. SM27300

Design and specifications are subject to change without notice.

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Attention: This service manual is only for service personnel to take reference with. Before servicing please read the following points carefully.

Safety instructions

1 Instructions

1.1 Be sure to switch off the power supply before replacing or welding any components or inserting/plugging in connection wire

1.2 Anti static measures to be taken (throughout the entire production process!):

1.2.1 Do not touch here and there by hand at will;

1.2.2 Be sure to use anti static electric iron;

1.2.3 It's a must for the welder to wear anti static gloves.

1.3 Please refer to the detailed list before replacing components that have special safety requirements. Do not change the specs and type at will.

2 Points for attention in servicing of LCD

2.1 Screens are different from one model to another and therefore not interchangeable. Be sure to use the screen of the original model for replacement.

2.2 The operation voltage of LCD screen is 700-825V. Be sure to take proper measures in protecting yourself and the machine when testing the system in the course of normal operation or right after the power is switched off. Please do not touch the circuit or the metal part of the module that is in operation mode.

Relevant operation is possible only one minute after the power is switched off.

2.3 Do not use any adapter that is not identical with the TV set. Otherwise it will cause fire or damage to the set.

2.4 Never operate the set or do any installation work in bad environment such as wet bathroom, laundry, kitchen,or nearby fire source, heating equipment and devices or exposure to sunlight etc. Otherwise bad effect will result.

2.5 If any foreign substance such as water, liquid, metal slices or other matters happens to fall into the module, be sure to cut the power off immediately and do not move anything on the module lest it should cause fire or electric shock due to contact with the high voltage or short circuit.

2.6 Should there be smoke, abnormal smell or sound from the module, please shut the power off at once. Likewise, if the screen is not working after the power is on or in the course of operation, the power must be cut off immediately and no more operation is allowed under the same condition.

2.7 Do not pull out or plug in the connection wire when the module is in operation or just after the power is off because in this case relatively high voltage still remains in the capacitor of the driving circuit.Please wait at least one minute before the pulling out or plugging in the connection wire.

2.8 When operating or installing LCD please don't subject the LCD components to bending, twisting or extrusion, collision lest mishap should result.

2.9 As most of the circuitry in LCD TV set is composed of CMOS integrated circuits, it's necessary to pay attention to anti statics. Before servicing LCD TV make sure to take anti static measure and ensure full grounding for all the parts that have to be grounded.

2.10 There are lots of connection wires between parts behind the LCD screen. When servicing or moving the set please take care not to touch or scratch them. Once they are damaged the screen would be unable to work and no way to get it repaired.

2.11 Special care must be taken in transporting or handling it. Exquisite shock vibration may lead to breakage of screen glass or damage to driving circuit.

Therefore it must be packed in a strong case before the transportation or handling.

2.12 For the storage make sure to put it in a place where the environment can be controlled so as to prevent the temperature and humidity from exceeding the limits as specified in the manual. For prolonged storage, it is necessary to house it in an anti-moisture bag and put them altogether in one place. The ambient conditions are tabulated as follows:

Temperature	Scope for operation	0—+50 °C
	Scope for storage	-20—+60 °C
humidity	Scope for operation	20%—85%
	Scope for storage	10%—90%

2.13 Display of a fixed picture for a long time may result in appearance of picture residue on the screen, as commmonly called "ghost shadow". The extent of the residual picture varies with the maker of LCD screen. This phenonmenon doesn't represent failure. This "ghost shadow" may remain in the picture for a period of time (several minutes).But when operating it please avoid displaying still picture in high brightness for a long time.

3. Points for attention during installation

3.1 The front panel of LCD screen is of glass. Wheng installing it please make sure to put it in place.

3.2 For service or instatallation it's necessary to use specified screw lest it should damage the screen.

3.3 Be sure to take anti dust measures. Any foreign substance that happens to fall down between the screen and the glass will affect the receiving and viewing effect

3.4 When dismantling or mounting the protective partition plate that is used for anti vibration and insulation please take care to keep it in intactness so as to avoid hidden trouble.

3.5 Be sure to protect the cabinet from damage or scratch during service, dismantling or mounting.

Instructions on adjusting and testing

1. **Debugging equipment**

   PM5515(Video signal generator), PM54200(SCART signal generator), VG-848(signal generator of YUV,VGA,DVI), and CA210(White balancer)

2. Process of **debugging**

   See Fig.1.

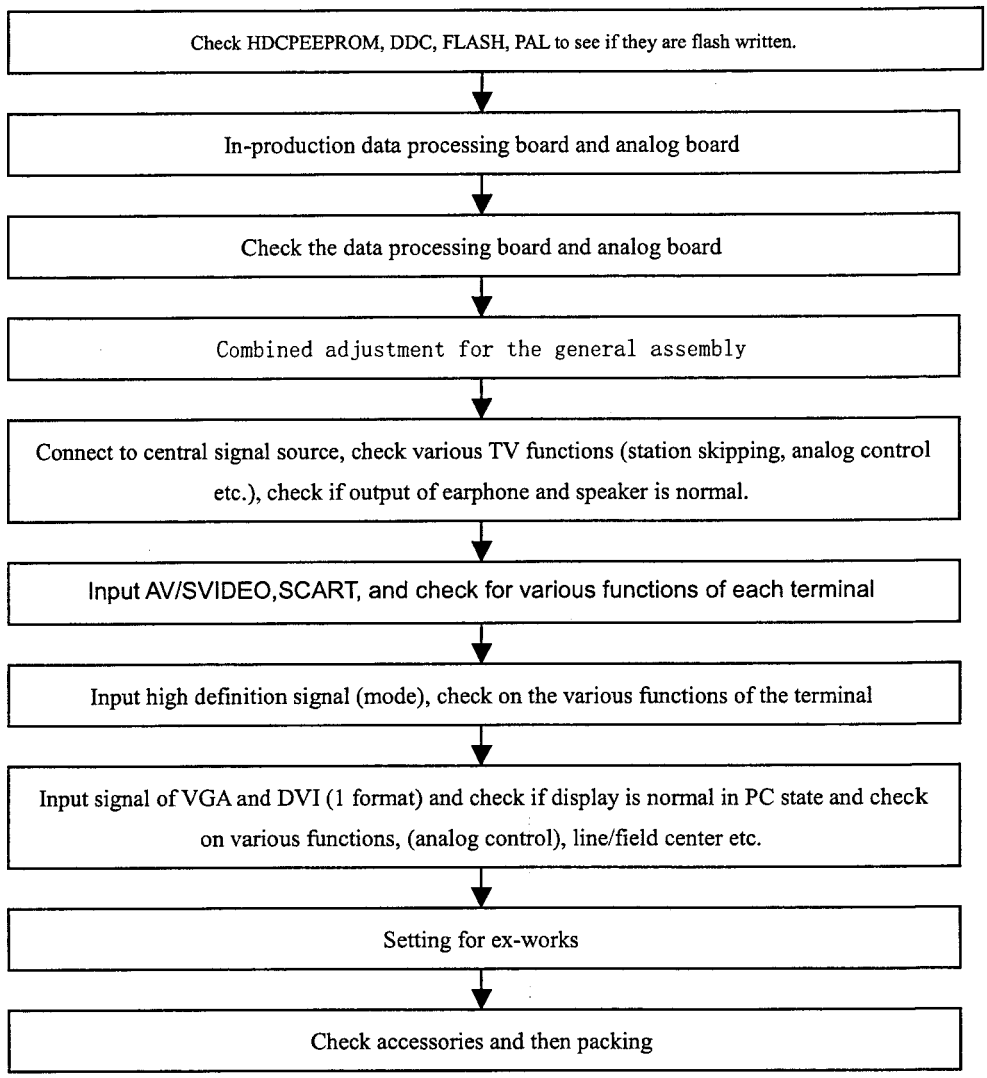

Check HDCPEEPROM, DDC, FLASH, PAL to see if they are flash written.
In-production data processing board and analog board
Check the data processing board and analog board
Combined adjustment for the general assembly
Connect to central signal source, check various TV functions (station skipping, analog control etc.), check if output of earphone and speaker is normal.
Input AV/SVIDEO,SCART, and check for various functions of each terminal
Input high definition signal (mode), check on the various functions of the terminal
Input signal of VGA and DVI (1 format) and check if display is normal in PC state and check on various functions, (analog control), line/field center etc.
Setting for ex-works
Check accessories and then packing

Fig.1 Debuggingprocess

3. Debugging for complete set

Connect the data processing board, sound processing board, TV processing board, keyboard, remote control receiving board and upgrading processing board according to wiring diagram 203-L27M60-02JL. Switch it on and then observe if the display is normal.

How to use the factory menu:First press"POWER"and press "video" immediately after to enter the factory menu. Press"S.M" and it is possible to change an adjustment page of factory menu. Press keys "CH+"and"CH-" it is possible to move the cursor up and down on a certain adjustment page. When the cursor is moved to a certain adjustment item, press "VOL-"and "VOL+" keys and then it is possible to carry out the adjustment for the item. Press"MENU" and exit from the factory menu. Before switching off the TV set, press"S.M" and it is possible to reenter the factory menu(**This state is called factory state**).

When the machine is switched off it is possible to exit from the factory state.

3.1. EEPROM Initialization

Enter the first page of the factory menu, select EEPROM Erase and then press"ENTER" key. Switch the TV set off and restart the set. Then it's ready for initialization.

Note: For the restart it takes relatively longer time to show blue screen!

3.2. Check on white balance

3.2.1. White balance for YpbPr channel

Connect the signal of 480I(968 mode)in VG-848 to YpbPr port. Input the signal of gray degree 16 (921 graph spectrum). Fix the R Gain, G Gain and B Gain of the White Balance Adjust as 80H, 80H, and 80H.Set the R Offset, G offset and B offset of the 9883 Adjust items so that the color coordinates of the 4^{th} step from the left are 254 and 250 and the brightness is 3.5nit. Check if the color coordinates of the 13^{th} step (4^{th} step from the right) are 267 and 267 and if the brightness is 400 nit. If not, recheck the brightness and color coordinates of the 4^{th} step and repeatedly adjust R Offset, G offset, B offset until the two gray degrees are both adjusted to the specified values.

Separately input the signals of other formats in Table 1. Repeat the operations above so that the white balance is up to the requirement as above.

4. Performance check

4.1. TV function

Connect RF port to the central signal source. First enter the menu for selected items. Set the category of country. Then enter edit menu → auto station searching and check if there is skipped stations. Check for manual station searching to see if fine adjustment is normal. Check if the output of earphone and loudspeaker is normal and if the image is normal. Switch on PIP and POP(multi pictures),connect earphone wire and check if the display and sound are normal.

4.2. AV/S-Video port

Separately input the signals from the terminals of AV/S and check if the display and sound are normal. Switch on PIP and POP(multi pictures),connect earphone wire and check if the display and sound are normal.

4.3. SCART port(Note: When checking SCART port,the mode displayed on the menu for selection items should be Auto)

4.3.1. Check of the special function of SCART INPUT

4.3.1.1. Function of SCART1

a).When the TV set is switched on, connect SCART1 to the signal generator(PM54200).Then the TV set should be automatically switched over to the state of Scart1.

b).SCART signal generator sends out CVBS signal(color stripe + multi-wave group).Observe if the image and sound of the set are normal. Change the display format (16:9 and 4:3) of the image output from the signal source. Check if the TV set can automatically identify it. When SCART signal is changed into that of RGB,observe if the image and sound of the set are normal. Change the display format (16:9 and 4:3) of the image output from the signal source. Check if the TV set can automatically identify it. Switch on PIP,connect the earphone and check if the display and sound are normal.

4.3.1.2. Function of SCART2

a). When the TV set is switched on, connect SCART2 to the signal generator(PM54200).Then the TV set should be automatically switched over to the state of Scart2.

b).SCART signal generator sends out CVBS signal(color stripe + multi-wave group).Observe if the image and sound of the set are normal. Change the display format (16:9 and 4:3) of the image output from the signal source. Check if the TV set can automatically identify it. Now the normal screen display

should be Scart2 AV and SCART signal is changed into that of Y/C. Switch the channel over to SCART 2 Y/C and observe if the picture and sound are normal. Change the display format (16:9 and 4:3) of the image output from the signal source. Check if the TV set can automatically identify it. Switch PIP on,connect the earphone and check if the display and sound are normal.

4.3.2. Check of special function of SCART OUTPUT

4.3.2.1. Function of SCART1

In the state of TV input the signal. Connect SCART1 port to the TV set for monitor purpose. Change the TV channel and see if the output signal from SCART1 is that of TV and see if the picture and sound of the TV for monitor purpose are normal. Change the TV channel and now the output signal from SCART1 should be that of TV and should not vary with the change of channel.

4.3.2.2. Function of SCART2

Separately input the signal in the state of TV/AV/S. Connect the SCART2 port to the TV set for monitor purpose. Change the TV channel in the state of TV/AV/S and see if the output signal from SCART2 is that of the present and see if the picture and sound of the TV for monitor purpose are normal.

4.4. Port of YPbPr/YCbCr

Input the signal of YUV(VG-848 signal generator). Separately input the various formats of YUV signals as in Table 1. Check if the display and sound are normal. If there are deviations for the line and field values on the picture, press Auto Sync on the Screen menu and make calibration. If the picture shows slight interference, adjust the Fine Tune of the Screen menu for calibration. Switch PIP on,connect the earphone and check if the display and sound are normal.

Table 1 Signal Formats YUV Receives

symbol	H-frequency(kHz)	V-frequency(Hz)	signal
1	15.734	59.94	SDTV 480i
2	31.469	59.94	HDTV 480p
4	44.955	59.94	HDTV 720p
6	33.716	59.94	HDTV 1080i
7	15.625	50	SDTV 576i
8	31.25	50	SDTV 576p
9	33.75	50	HDTV 1080i
10	37.50	50	HDTV 720p

4.5. VGA Port

Input the VGA signal(VG-848 signal generator). Separately input the various formats of YUV signals as in Table 2. Check if the display and sound are normal. If there are deviations for the line and field values on the picture, press Auto Sync on the Screen menu and make calibration. If the picture shows slight interference, adjust the Fine Tune of the Screen menu for calibration. Switch PIP on,connect the earphone and check if the display and sound are normal.

Table 2 Signal Formats VGA Receives

symbol	resolution	H-frequency(Hz)	V-frequency(Hz)	Dot frequency(MHz)	remarks
1	720x400	31.469	70.086	28.322	IBM
2	640x480	31.469	59.94	25.175	IBM
3	640x480	37.861	72.809	31.5	VESA
4	640x480	37.5	75.0	31.5	VESA
5	640x480	43.269	85.008	36	VESA
6	800x600	35.156	56.25	36	VESA

7	800x600	37.879	60.317	40	VESA
8	800x600	48.077	72.188	50	VESA
9	800x600	46.875	75.0	49.5	VESA
10	800x600	53.674	85.061	56.25	VESA
11	1024x768	48.363	60.004	65	VESA
12	1024x768	56.476	70.069	75	VESA
13	1024x768	60.023	75.029	78.75	VESA

4.6. DVI Port

In addition to the signal formats as listed in Table 2, DVI can receive the following three high definition signal formats -- 576P, 720P/60 Hz and 1080I/60 Hz. Input the DVI signal(VG-848 signal generator). Separately input the signals of the various DVI formats as listed above. Check if the display and sound are normal.

If there are deviations for the line and field values on the picture, press Auto Sync on the Screen menu and make calibration. Switch PIP on,connect the earphone and check if the display and sound are normal.

4.7. For the ex-works settings please see Tables 3-8. (Ex-works setting values have been normally initialized by the software. The only thing for the factory to do is to proof read the values.

Table 3 Setting of Factory Option Menu Page

symbol	item	ex-works settings
	EEPROM Erase	Off
1	Backlight Adjustable	Off
2	Back Light	99
3	Menu Timeout	15
4	Blank switch enable	Off
5	ShowLogo	On
6	Auto Channel Lable	On
	Disable SRS active	Stereo
Note: The last 5 items of Table 3 should be designed according to the customer's request.		

Table 4 Setting of Video Min/Max Page

item	ex-works settings
Bright Min	C0H
Bright Middle	00H
Bright Max	10H
Contrast Min	10H
Contrast Middle	20H
Contrast Max	28H
Sharpness Min	00H
Sharpness Middle	10H
Sharpness Max	1FH

Color Min	00H
Color Middle	32H
Color Max	63H
Hue Min	CEH
Hue Middle	00H
Hue Max	32H

Table 5 Setting of Factory Audio Setting Page

item	ex-works settings
Volume Min	37H
Volume 30	63H
Volume 50	70H
Volume Max	76H
Prescale Scart	3FH
Prescale FM/AM	1FH
Prescale Nicam	40H
Scart1 Volume	20H
Scart2 Volume	20H
D/K select HDEV3	Off
Equalizer Bands Max	60H
Spatial Mode	Off
AVC	Off

Table 6 White Balance Adjust Setting Page

item	ex-works settings
R Offset	1CH
G Offset	00H
B Offset	25H
R Gain	F0H
G Gain	F0H
B Gain	F0H
Brightness	50
Contrast	50

Note:9883 Adjust is only for adjustment of YPBPR white balance, so different models and units may have different values.

Set 9883 Registers are used for design and adjustment, so they can't be used to memory things while changing the values.

In the state of factory,it is possible to change setting values for picture and sound in various factory modes. Otherwise any equilibrium values of picture and sound different in the other states are considered the setting of Custom.

Table 7 Setting of Picture Analog Value

	Vivid	Standard	Mild	Custom
Contrast	80	70	50	50
Brightness	50	45	40	50
Color	50	45	40	50
Hue	00	00	00	00
Sharpness	50	50	50	50

Table 8 Setting of Sound Equilibrium Value

	Live	Pop	Rock	Custom
120 Hz	50	50	65	50
500 Hz	50	50	55	50
1.5 kHz	50	60	55	50
5 kHz	80	70	55	50
10 kHz	85	70	55	50

Ex-works settings for User Menu are as follows:

1) The channel is selected as that of the present TV;
2) Under video menu,Mode:Standard, NR:Auto;
3) Under audio menu,Volume:20,Balance:00,Equalizer:Custom,SRS Mode:Auto,HP Volume:20;
4) Under edit menu,Color System:Auto, Sound System:I;
5) Under the menu of selection items: Default Zoom:Auto, Child Lock:Off, Menu Language:English, Country:UK, WSS:OFF, Blue Screen:On.

Note: The forth item and the fifth item should be designed according to the customer's request.

Trouble shooting

Before servicing please check to find the possible causes of the troubles according to the table below.

1.Antenna:

Picture is out of focus or jumping	● Bad status in signal receiving ● Maybe broadcast signal itself is not good ● Check if the outdoor antenna is disconnected. ● Check if the antenna is correctly oriented.
Fringe in picture	● Check if the antenna is correctly oriented. ● Maybe there is electric wave reflected from hilltop or building.
Picture is interfered by stripe shaped bright spots	● Possibly due to interference from automobile, train, high voltage transmission line, neon lamp etc. ● Maybe there is interference between antenna and power supply line. Please try to separate them in a longer distance.
There appear streaks or light color on the screen	● Check if interfered by other equipment and if interfered possibly by the equipment like transmitting antenna, non professional radio station and cellular phone.

2.TV set:

Symptoms	Possible cause
Unable to switch the power on	● Check to see if the power plug has been inserted properly into the socket.
No picture and sound	● Check to see if the power supply of liquid crystal TV has been switched on. (as can be indicated by the red LED at the front of the TV set) ● See if it's receiving the signal that is transmitted from other source than the station ● Check if it's connected to the wrong terminal or if the input mode is correct. ● Check if the signal cable connection between video frequency source and the liquid crystal TV set is correct.
Deterioration of color phase or color tone	● Check if all the picture setups have been corrected.
Screen position or size is not proper	● Check is the screen position and size is correctly set up.
Picture is twisted and deformed	● Check to see if the picture-frame ratio is properly set up.
Picture color changed or colorless	● Check the "Component" or"RGB"settings of the liquid crystal TV set and make proper adjustment according to the signal types.
Picture too bright and there is distortion in the brightest area	● Check if the contrast setting is too high. ● Possibly the output quality of DVD broadcaster is set too high. ● It maybe also due to improper terminal connection of the video frequency signal in a certain position of the system.
Picture is whitish or too bright in the darkest area of the picture	● Check if the setting for the brightness is too high ● Possibly the brightness grade of DVD player(broadcaster)is set too high.
No picture or signal produced from the displayer if "XXX in search"appears.	● Check if the cable is disconnected. ● Check if it's connected to the proper terminal or if the input mode is correct.
There appears an indication - "outside the receivable scope)	● Check if the TV set can receive input signal. The signal is not correctly identified and VGA format is beyond the specified scope.
Remote control cannot work properly	● Check if the batteries are installed in the reverse order. ● Check if the battery is effective. ● Check the distance or angle from the monitor. ● Check if there is any obstruct between the remote control and the TV set. ● Check if the remote control signal- receiving window is exposed to strong fluorescence.
No picture and sound, but only hash.	● Check if the antenna cable is correctly connected, or if it has received the video signal correctly.

Blur picture	• Check if the antenna cable is correctly connected. • Of if it has received the right video signal.
No sound	• Check if the "mute" audio frequency setting is selected. • Check if the sound volume is set to minimum. • Make sure the earphone is not connected. • Check if the cable connection is loose.
When playing VHS picture search tape, there are lines at the top or bottom of the picture.	• When being played or in pause VHS picture search tape sometimes can't provide stable picture, which may lead to incorrect display of the liquid crystal TVIn this case please press "auto" key on the remote control so as to enable the liquid crystal TV set to recheck the signal and then to display correct picture signal

Method of software upgrading

1.guidance for software installation

open the compressed files to obtain the "LoadDriver", running the "IAPWriter.exe" and soon it will enter into IAP program.

2.TV enter into IAP state(automatic software upgrading)

one method: press constantly the "vol –" button, turn on

another method: enter into the factory menu to select the "IAP" item, press the "enter" button

3.connect the "IICtools" of computer with the upgrading interface of TV.

4.running " IAPWriter " to enter into the upgrading state(if there are failure between the computer and TV's IIC communication, the indication that can't enter into the next step will appear. you need to check the wiring at this moment.

5.after selecting "files" menu and obtaining the software which requires upgraded, selecting the "Device" menu: "write"→ "device", until the indication of "success" appears at the down-left corner, turn off the power, unplug the tool and turn on the TV again.

Note: the upgrading process maybe appears unstable because of the upgrading software, but the software can download and write again automatic. if download and write repeated many times, please turn off the TV and enter into IAP again, upgrade again.

Basic Working Principle

1. Analog signal flow process:

The signal received by antenna is fed into an integrated tuner (including high frequency and medium amplification circuit). The tuner is controlled by the instructions (SDA, SCL) of MCU N501(SDA5550), selects proper channels and conducts the right switching over of modes and outputs video signal 2Vpp and audio signal 1Vpp after high and medium amplification and decoding.

Audio signal including SCART1,2 sound, AV sound as well as the YPbPr,DVI,D-SUB sound signal switched over through N704 HEF4052BT (sound change-over switch), and Scart audio input signal] is fed into N201 (MPS3410 sound processing and volume control)for the switch-over of audio signal. The selected audio signal is fed, separately from left and right sound channels, into SRS IC(M62494 virtual surrounding sound processing) N203, where it is subject to virtual surrounding sound processing. The processed audio signal is fed, separately from left and right sound channels, into the digital sound power amplifier N213/N214(MPS7720) for amplification and then further fed into loudspeaker (in the future it may be changed into sound box for the improvement of sound quality) for

sound reproduction. M62494 is a virtual surrounding sound processing IC, which is subject to the control of I/O port (77/78Pin) of N201 MPS3410.

The video signal output from the tuner, AV signal and Svideo signal, after matching with resistor, directly enter, respectively from its own channel, into the main decoder IC N101(PanelTv-Svp), where they are subject to video switch-over, A/D conversion, digital decoding, image zooming and OSD superposition. Then they are output in electric level TTL to N601 DS90C383 (LVDS transmitting IC) for driving the crystal display screen.

The Scart1 video signal and RGB signal, after matching with resistor, enter into the decoder IC N401 (VPC3230 digital decoder), where they are subject to A/D conversion, and digital decoding. Then they are fed in digital format into PanelTv-Svp for image zooming and OSD superimposition. Afterwards they are further fed, in electric level TTL, into N601 DS90C383(LVDS IC) for driving the liquid crystal display screen.

The Scart2 video signal and Y/C signal, after matching with resistor, enter into the decoder IC N401 (VPC3230 digital decoder), where they are subject to A/D conversion, and digital decoding. Then they are fed in digital format (IUT656) into PanelTv-Svp for image zooming and OSD superimposition. Afterwards they are further fed, in electric level TTL, into N601 DS90C383 (LVDS IC) for driving the liquid crystal display screen.

For the specific circuit type and internal block diagram, please see the attached Fig.

2. Digital signal flow process:

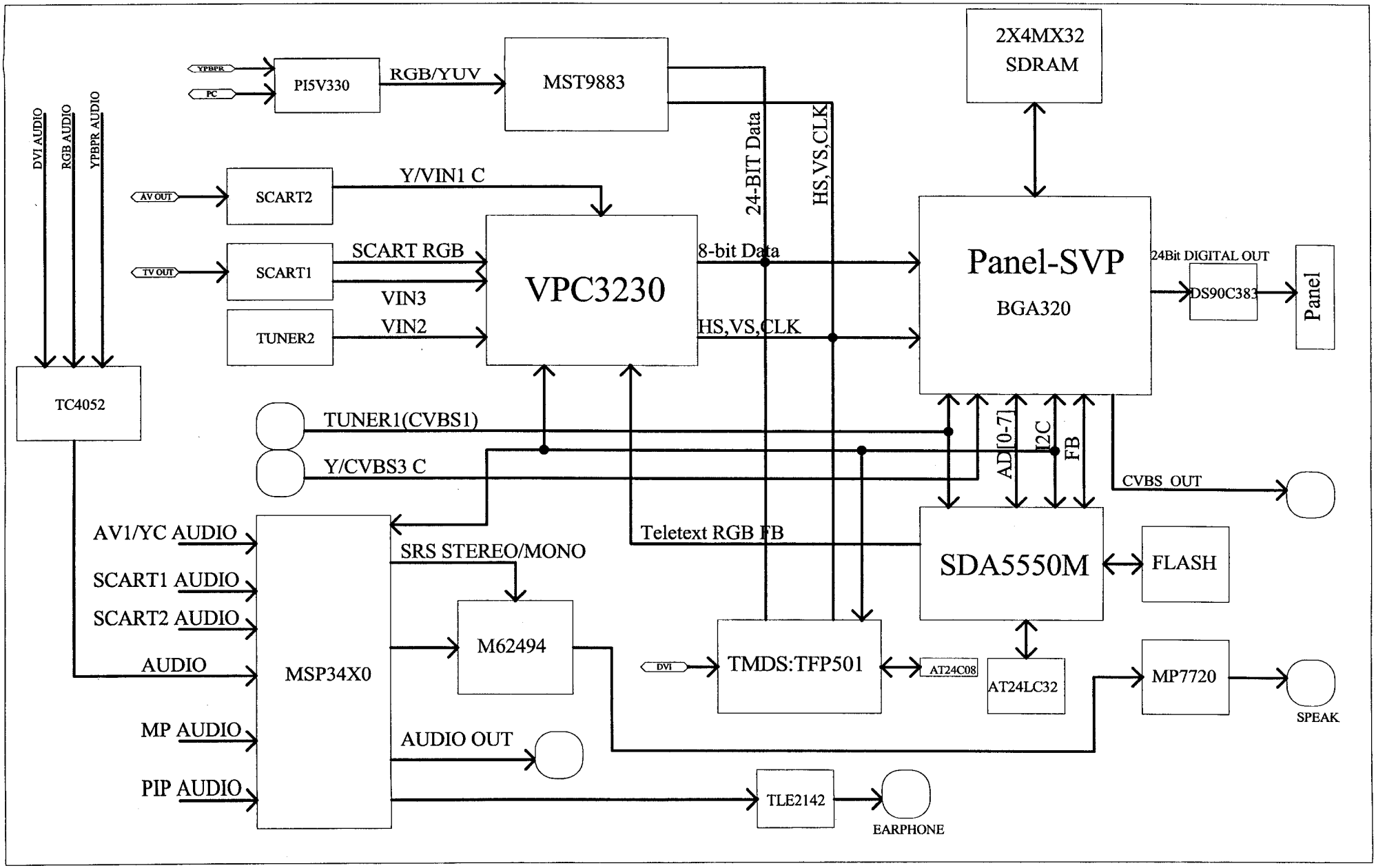
(For the time being we call D-SUB, YpbPr signal also as digital signal. But in fact the two signals are analog ones in terms of transmission and are only in digital format after conversion in ADC) D-Sub signal and YpbPr signal are, after matching with resister, fed into N703 video switch (SN74CBT3257CDR). After switching over, the selected signal is fed into ADC N201 MST9883 for A/D conversion. Then it is output in digital format of (24 digits RGB signal) to PanelTv-Svp PIP channel. Through image zooming and OSD superimposition, it is then output, in electric level TTL for driving LVDS liquid crystal display screen.

DVI signal is received through DVI receiving CMOS chip N761(TFP501DVI receiving chip Has HDCP function). Then the received signal is output through DVI chip in digital format into PanelTv-Svp PIP channel. After image zooming and OSD superimposition, it is output in electric level TTL for driving LVDS liquid crystal display screen.

3. Realization of TELETEXT function

To realize the TELETEXT function of the main channel, this TV set adopts MCU N501(SDA5550),SDA5550 of MICRONAS, which is both MCU and TELETEXT decoder. This set can realize this function by two ways. One is that the radio frequency, after being decoded in SDA5550, through parallel interfaced bus line, realizes the TELETEXT function in the form of OSD. The advantage in this way is the result is relatively good and the characters/symbols are stable; the disadvantage is that it is relatively slow for the TELETEXT function to appear through OSD. The other way is that the radio frequency is decoded in SDA5550 into RGB signal, which is subject to A/D conversion in IC N401(VPC3230 digital decoder) and then it is fed in digital format into PanelTv-Svp for the realization of TELETEXT function. The advantage in this way is the speed the teletext comes out is faster and the disadvantage is due to the fact that it is fed, in analog RGB form, into VPC3230 and goes through it, the analog signal is easily subject to outside interference and thus the stability of characters/symbols is not so good as the previous way (through OSD). We have chosen the first way. which in turn it is relatively slow for the TELETEXT function to appear through OSD.

4.BLOCK DIAGRAM

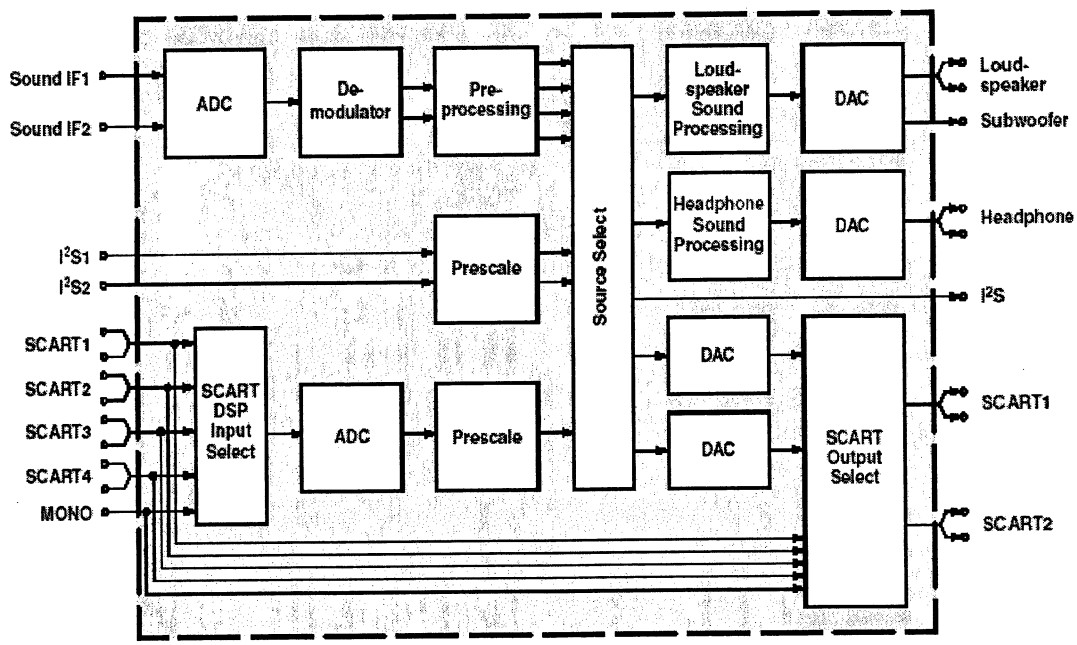


5. Introduction to main IC and principle block diagram

a). Sound processing IC(MSP3410)

Audio signal is fed directly into audio processor N201 MSP3410 whereas two-way tuner sends intermediate frequency signal SIF of its second sound to N201 for processing (used for decoding of stereo or automatic sound volume control. N201 is equipped with audio channel changeover switch. The audio input VGA/DVI/YPrPb of the main board is subject to selection and switch over in N704(HEF4052BT) and then sent to N201 together with the audio signal of TV and AV. The selected audio signal is divided into several portions. One portion is sent separately through left and right channels, after being subject to the control of volume and pitch(alt/bourdon), into SRS IC(M62494 virtual surround sound processor) N203 for virtual surround sound processing. The processed audio signal is then fed separately through left and right sound channels into digital sound power amplifier N213/N214(MPS7720) for amplification, and then further fed into the loudspeaker (In the future it may be changed into sound box for improved sound quality) for the reproduction of sound. Another portion is fed separately through left and right sound channels into the earphone power amplifier N212(TLE2142). After amplification there it is output to earphone jack for listening to. The volume in controlled through I2C bus line by N201. The other two portions are output, separately used as accompanying sound of TV out and AV out, through the port SCART of the video board.

The block diagram of MSP3410 is shown in the Fig. below:



The main pins of MSP3410 in this TV model are described as follows:

2, 3:SCL and SDA, for the control of the operations of IC;

27, 28:output to the left and right channels of sound power amplifier;

24, 25: for left and right channels of earphone sound;

36, 37:AV OUT left and right sound channels;

33, 34:TV OUT left and right sound channels;

47, 48:fed from the main board to left and right sound channels;

50, 51:left and right channels of SCART2 sound;

53, 54:left and right channels of SCART1 sound;

56, 57:left and right channels of AV IN sound;

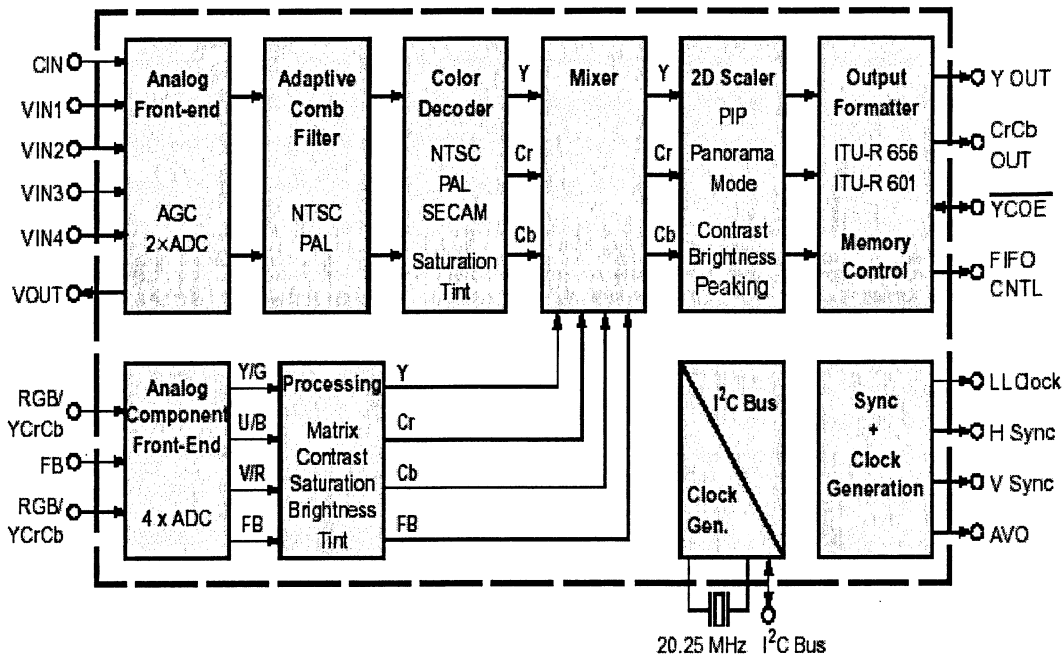
67, 69:SIF input of TV for main and sub channels;

59:MONO input of TV for sub channel

Sound power amplifier MPS7720 is a highly efficient Type D power amplifier of mono channel input and output. The output power can be as high as 10W under the circumstance that there is no radiator. It has also the function of silencing abnormal sound.

b). Sub channel and SCART audio signal decoding IC(VPC3230)

The block diagram of VPC3230 is shown below:



The video signal demodulated by sub tuner TUNER202, Scart1 video signal and RGB signal as well as Scart2 audio signal and Y/C signal, after matching with resistor separately, are fed into decoder IC N401(VPC3230), where they are subject to D/A conversion, digital decoding. Then they are fed in digital format (IUT656) into main processor IC N101(PanelTv-Svp). At the same time the VPC3230 VOUT signal, after isolation, is divided into two portions. One portion is fed into video board as AV OUT for output; the other portion is fed to N501(SDA5550) as the decoding signal for teletext. Therefore this TV model is ready to support teletext function under TV, AV, SCART1 and SCART2.

The main pins of VPC3230 in this TV model are described as follows:

13, 14:SCL, SDA, for the control of IC operations;

4, 5, 6: RGB signal input for SCART1;

74: video signal of SCART1 or RGB compound synchronous input;

71, 72: Y/C signal input for SCART2;

73: video signal input for sub tuner;

75: AV video signal input;

70: VOUT signals of VPC3230.

c). IC(MST9883) that receives YPbPr/YcbCr and RGB

YPbPr/YcbCr and RGB signals are, after the selection and change over in N703(sn74cbt3257c), fed into N201(MST9883), where it is subject to D/A conversion. Then they are fed in digital format to the main processor IC N101(PanelTv-Svp).

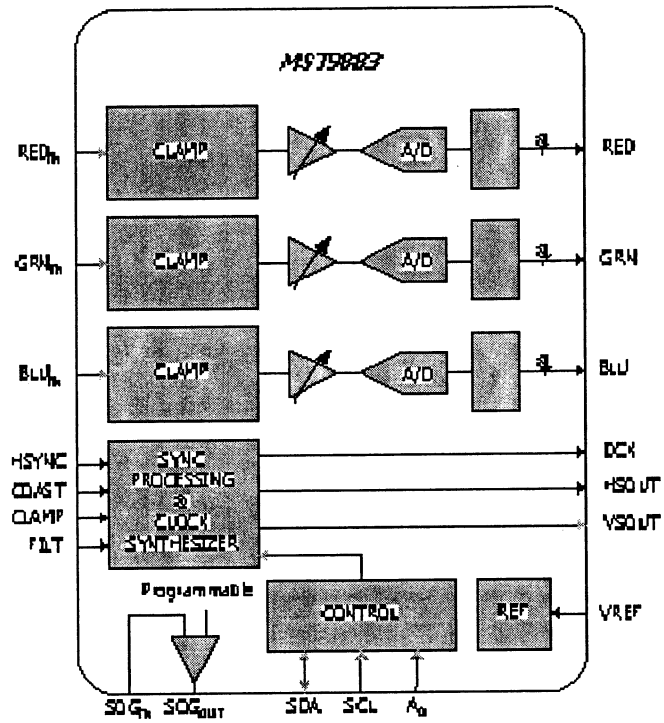
The main pins of MST9883 in this TV model are described as follows:

56,57:SCL,SDA, for the control of IC operations;

43, 48, 54:RGB/YUV signal input;

30, 31:Line and field synchronous RGB signal input RGB;

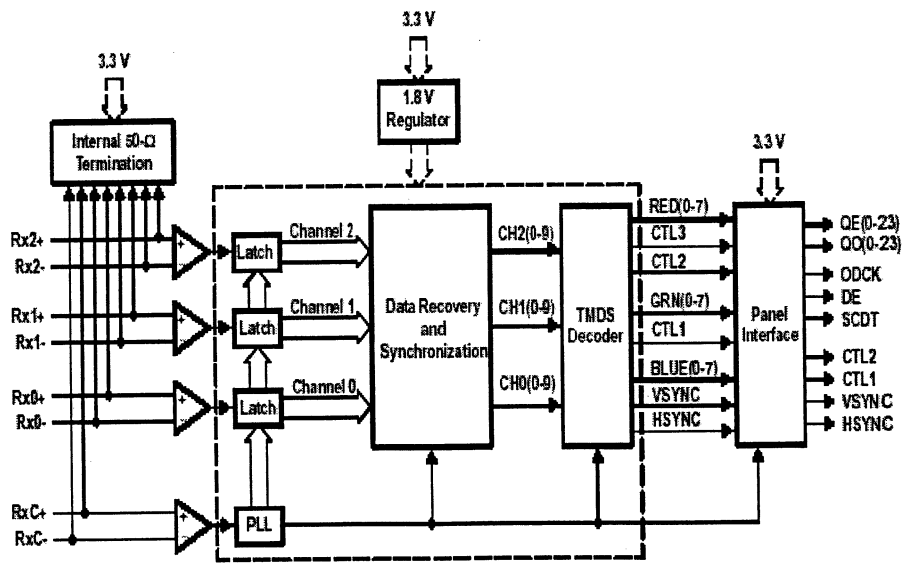
The block diagram of MST9883 is shown below:



d). IC(TFP501) that receives DVI signal

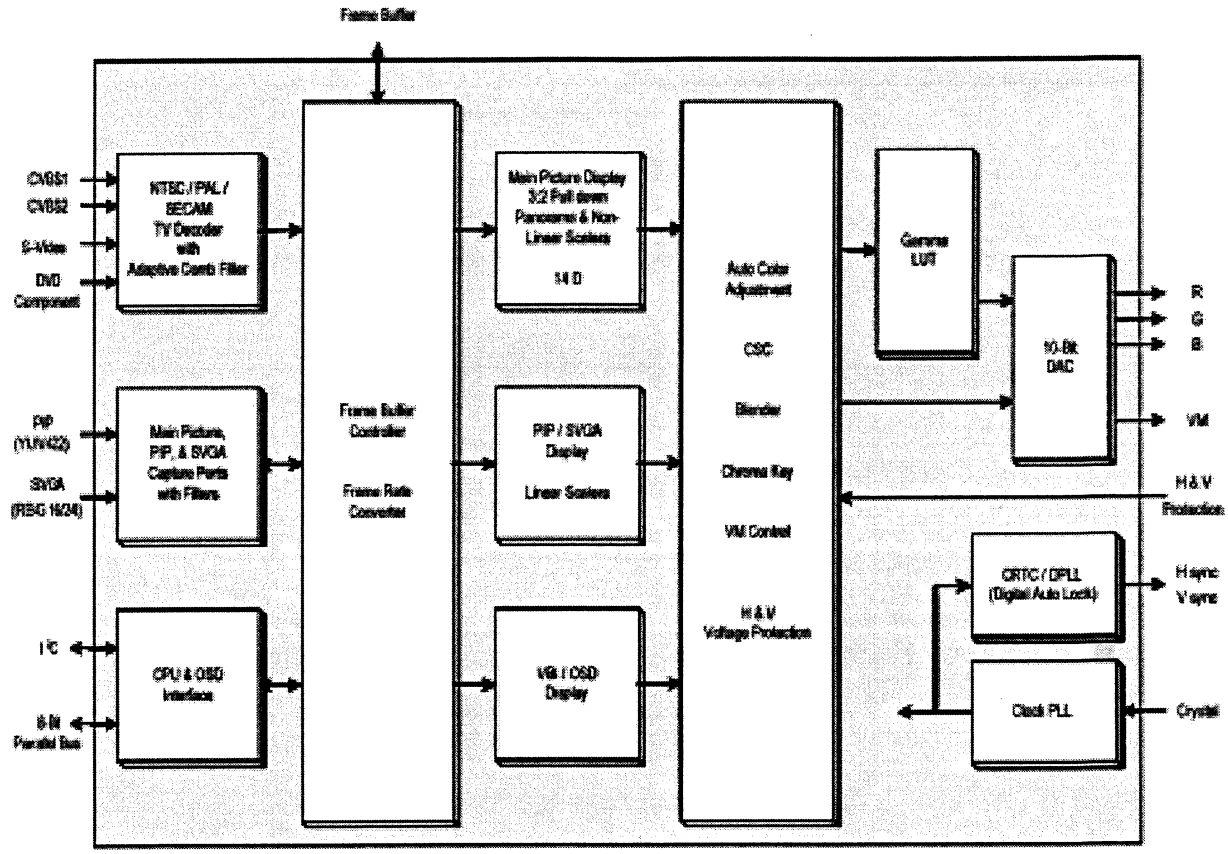
The differential signal of DVI is fed into N761(TFP501). Then it is converted into 24bit digital signal, which is in turn fed to the main processor IC N101(PanelTv-Svp). Furthermore, when TFP501 is matched with N760(M24C08), it is possible to realize the display of image signals with HDCP information.

The block diagram of TFP501 is shown as below:



e). Main picture decoding and processing IC(PanelTv-Svp)

The block diagram of PanelTv-Svp is shown below:



The video signal output from main tuner(TUNER201),AV and Svideo signal, after matching with resistor, fed directly through its respective channel into main decoder IC N101(PanelTv-Svp), where they are subject to the changeover of video, A/D conversion, digital decoding, image zooming and OSD superimposition. Then they are output in electric level TTL to N601 DS90C383 (LVDS transmitting IC) for driving liquid crystal display screen. Besides the digital signal fed from VPC3230, MST9883 and TFP501 are subject to image zooming and OSD superimposition in N101. Then they are output in electric level TTL to N601 DS90C383 (LVDS transmitting IC) for driving the liquid crystal display screen. Furthermore it is also possible to realize multi-display functions in N101 such as PIP, POP, double pictures and 9 pictures.

The main pins of PanelTv-Svp in this TV model are described as follows:

K4, J1:SCL,SDA, for the control of IC operations;

L2, P4: Y/C signal input of Svideo;

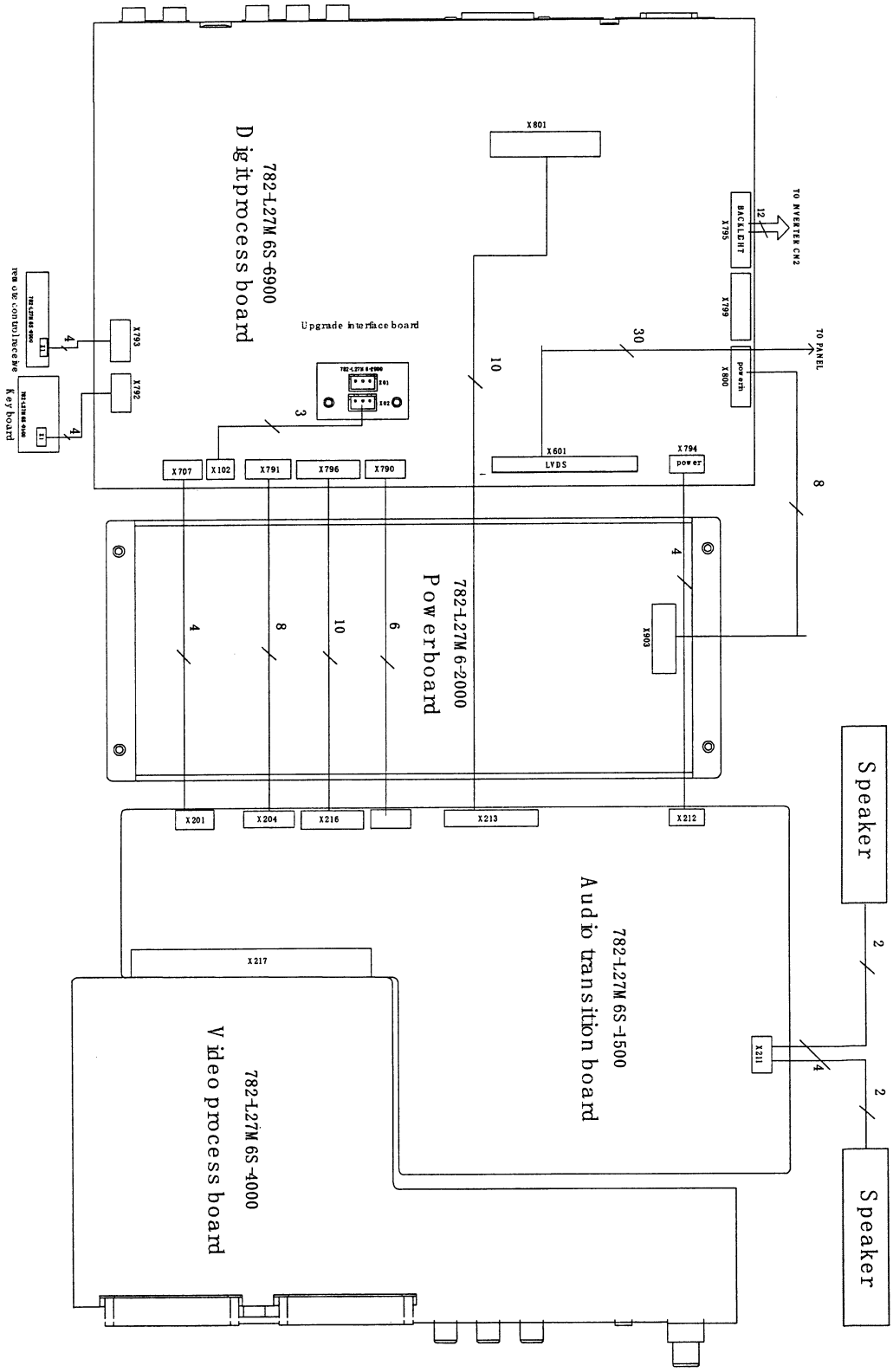
L4: video signal input of main tuner;

L3: AV signal input;

Y10, Y11, W11:IC analog RGB signal output(can be used during adjustment);

U13, V13, Y2: line/field synchronous signal and PCLK signal output.

WIRING DIAGRAM



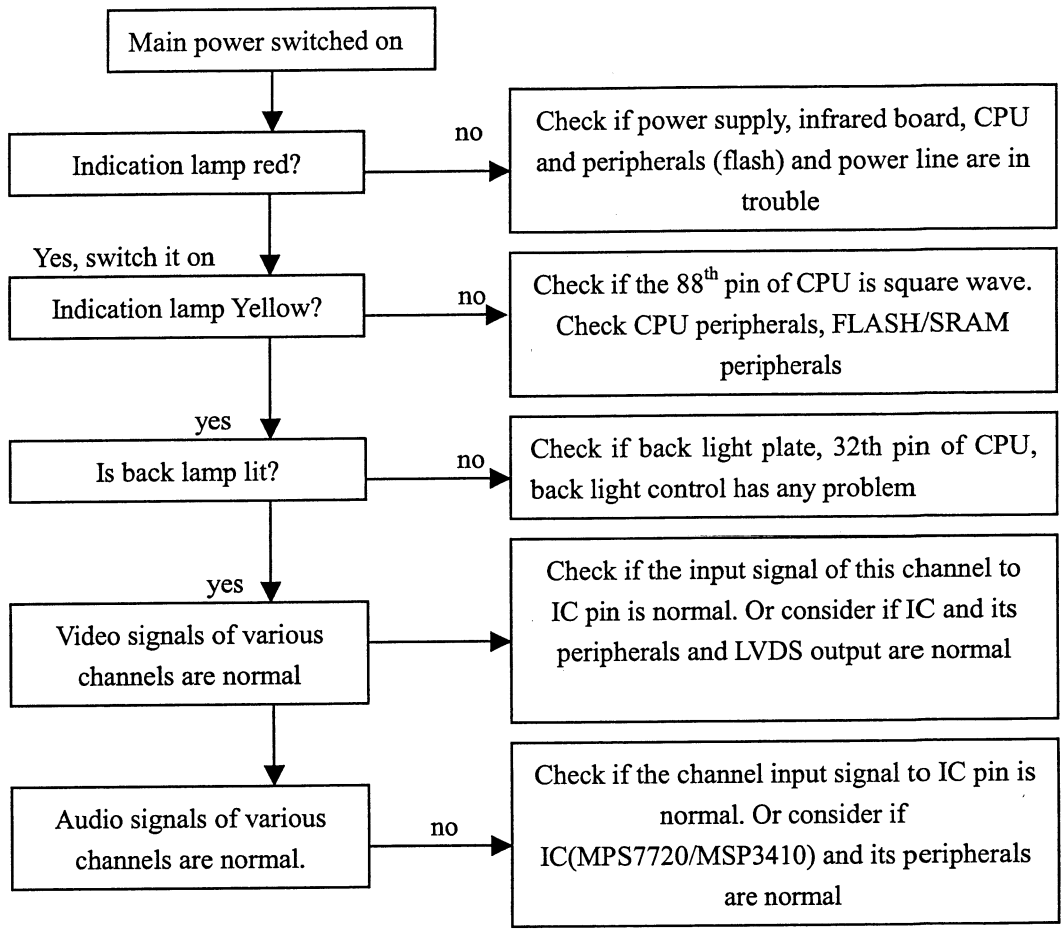
Note: The coded number of the printed circuit boards above and parts may be changed along with the performance improvement. For details please consult our service people.

Serial No. of Parts

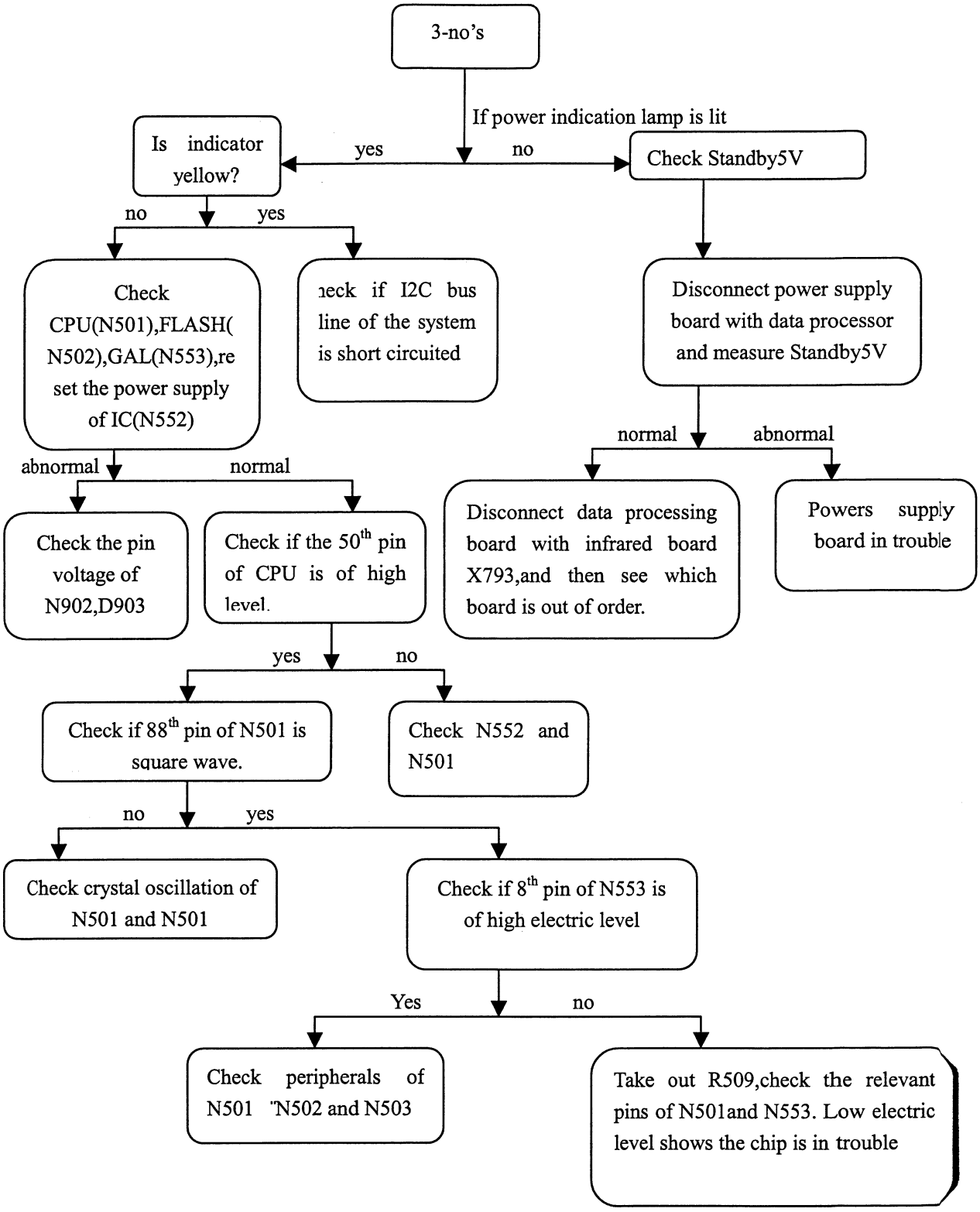
NAME	NO.	main component or NO.
data processing board	667-L27M7S-69 (667-L27M6S-69)	N101 PanelTv-Svp (353-PANEL-20) N201 MST9883 (353-98830-10) N401 VPC3230 (353-32300-80) N501 SDA5550M (353-55500-00) N502 W29C040 (353-29040-00) N601 DS90C383 (353-03830-70) N761 TFP501 (353-05010-00)
Sound processing board	667-L27M7S-15 (667-L27M6S-15)	N201 MSP3410G (353-34100-80) N203 M62494FP (353-62494-20) N213 N214 MP7720 (353-77200-10)
Video processing board	667-L27M7S-40 (667-L27M6S-40)	TUNER201 JS-6B2/122A2-A2 (590-40512-00) TUNER202 JS-6B2/121A2 (590-40511-00) N212 TLE2142CP (352-21420-00)
IR-receiver board	667-L27M6S-09	
Button board	667-L27M6S-05	
Updata interface board	667-L27M6-29	
Power board	667-L27M6-20	

TROUBLESHOOTING GUIDE

1. Process of diagnosing happening troubles


Main power switched on
Indication lamp red?
no
Check if power supply, infrared board, CPU and peripherals (flash) and power line are in trouble
Yes, switch it on
Indication lamp Yellow?
no
Check if the 88th pin of CPU is square wave. Check CPU peripherals, FLASH/SRAM peripherals
yes
Is back lamp lit?
no
Check if back light plate, 32th pin of CPU, back light control has any problem
yes
Video signals of various channels are normal
Check if the input signal of this channel to IC pin is normal. Or consider if IC and its peripherals and LVDS output are normal
Audio signals of various channels are normal.
no
Check if the channel input signal to IC pin is normal. Or consider if IC(MPS7720/MSP3410) and its peripherals are normal

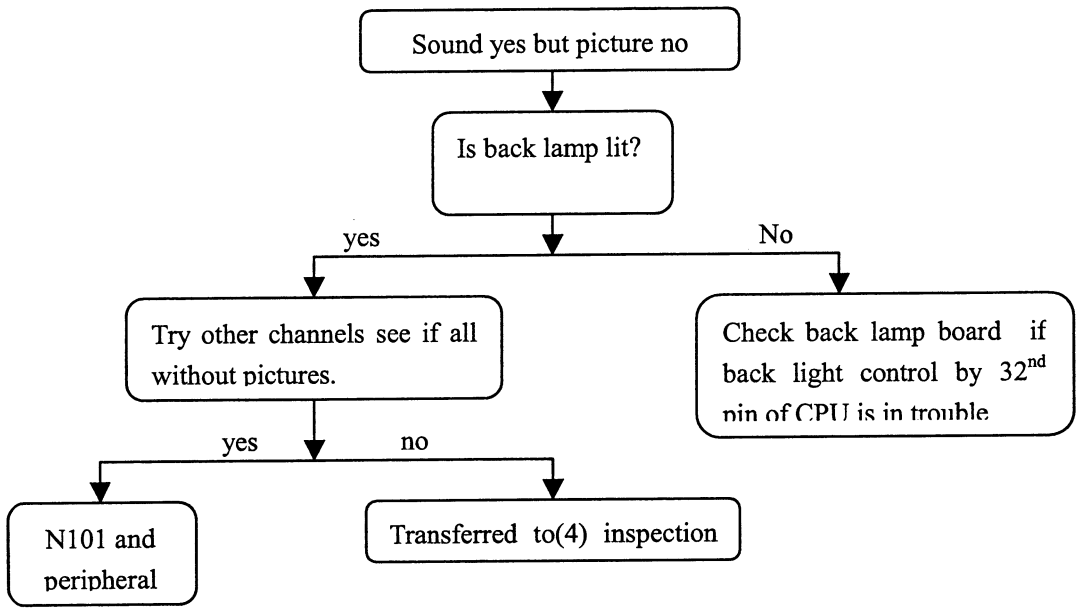
2.Trouble of 3-no's (no raster, no picture and no sound)


3-no's
If power indication lamp is lit
Is indicator yellow?
yes
no
Check Standby5V
no
yes
Check CPU(N501),FLASH(N502),GAL(N553),re set the power supply of IC(N552)
ıeck if I2C bus line of the system is short circuited
Disconnect power supply board with data processor and measure Standby5V
normal
abnormal
abnormal
normal
Check the pin voltage of N902,D903
Check if the 50th pin of CPU is of high level.
Disconnect data processing board with infrared board X793,and then see which board is out of order.
Powers supply board in trouble
yes
no
Check if 88th pin of N501 is square wave.
Check N552 and N501
no
yes
Check crystal oscillation of N501 and N501
Check if 8th pin of N553 is of high electric level
Yes
no
Check peripherals of N501 "N502 and N503
Take out R509,check the relevant pins of N501and N553. Low electric level shows the chip is in trouble

Note:When the electric level of the 50th pin of N501is measured low, take R554 out. Then check if the relevant pins of N501 and N552 are of high electric level. Low electric level shows that the chip is in trouble. During the check of the peripherals of N501,N502 and N503,oscilloscope can be used to detect the pins of the resistor array connected

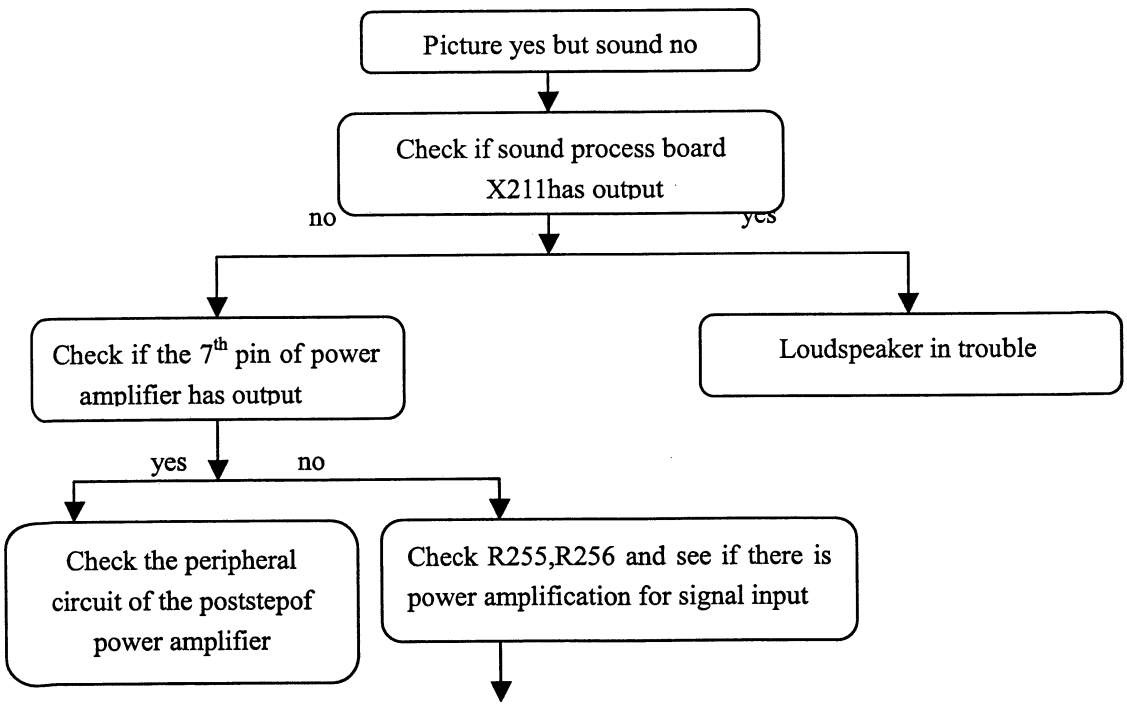
between N501,N502 and N503, in addition to inspect the welding condition of relevant parts and fittings. If the waveform detected is of regular square wave or no signal, it shows that N501 or N502 or N503 is abnormal so that the address link and data link between them become out of order. Now most probably N502 has error.

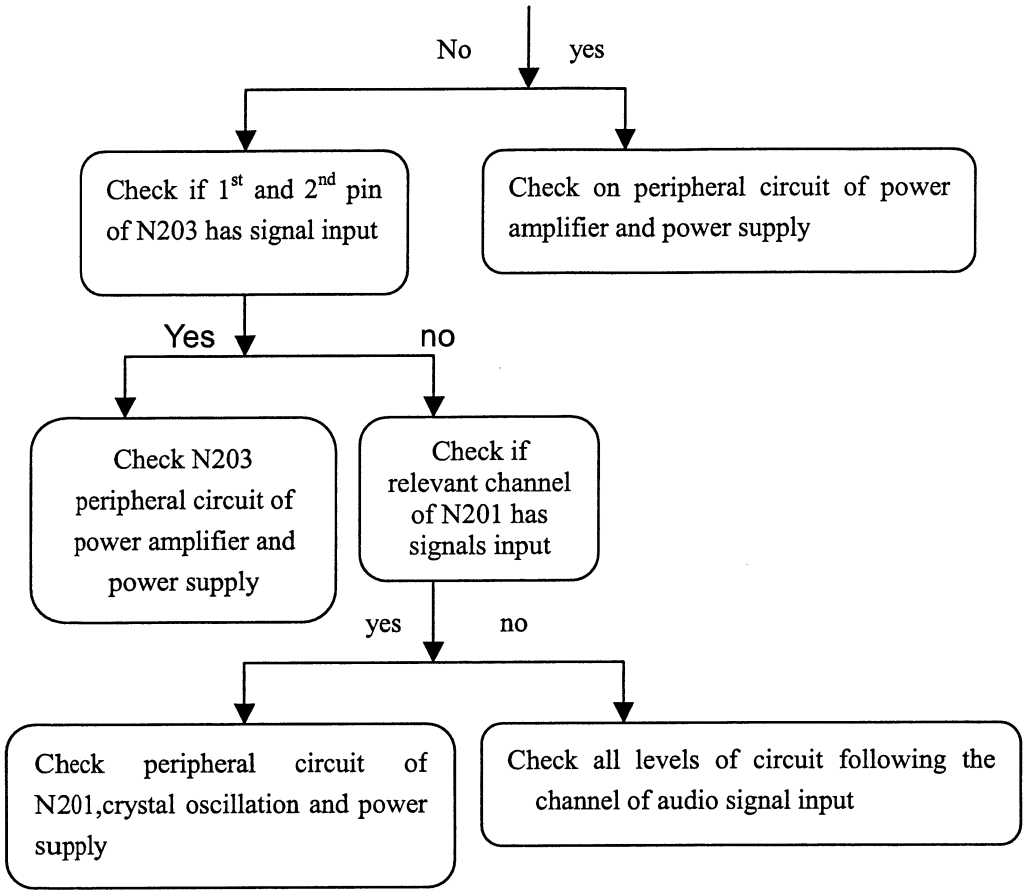
3.With sound but without picture


Sound yes but picture no
Is back lamp lit?
yes
No
Try other channels see if all without pictures.
Check back lamp board if back light control by 32nd pin of CPU is in trouble
yes
no
N101 and peripheral
Transferred to(4) inspection

Note: The no picture phenomena in channel discussed here refers to that detected TV,AV and terminal S are detected to be with sound but without picture. As to inspection details of other channels, please refer to inspection program(4).

4.With picture but without sound

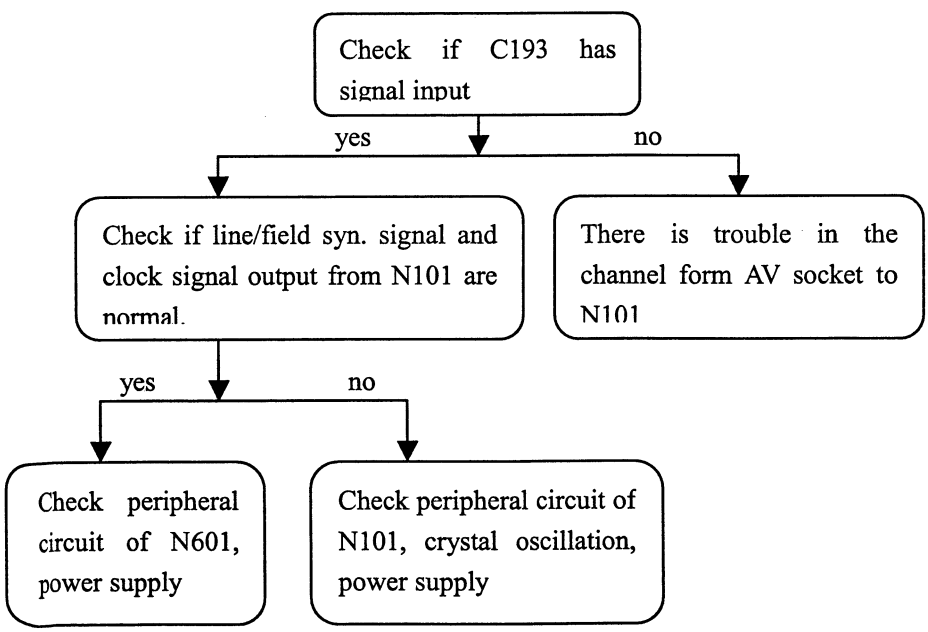

Picture yes but sound no
Check if sound process board X211has output
no
yes
Check if the 7th pin of power amplifier has output
Loudspeaker in trouble
yes
no
Check the peripheral circuit of the poststepof power amplifier
Check R255,R256 and see if there is power amplification for signal input


No
yes
Check if 1st and 2nd pin of N203 has signal input
Check on peripheral circuit of power amplifier and power supply
Yes
no
Check N203 peripheral circuit of power amplifier and power supply
Check if relevant channel of N201 has signals input
yes
no
Check peripheral circuit of N201,crystal oscillation and power supply
Check all levels of circuit following the channel of audio signal input

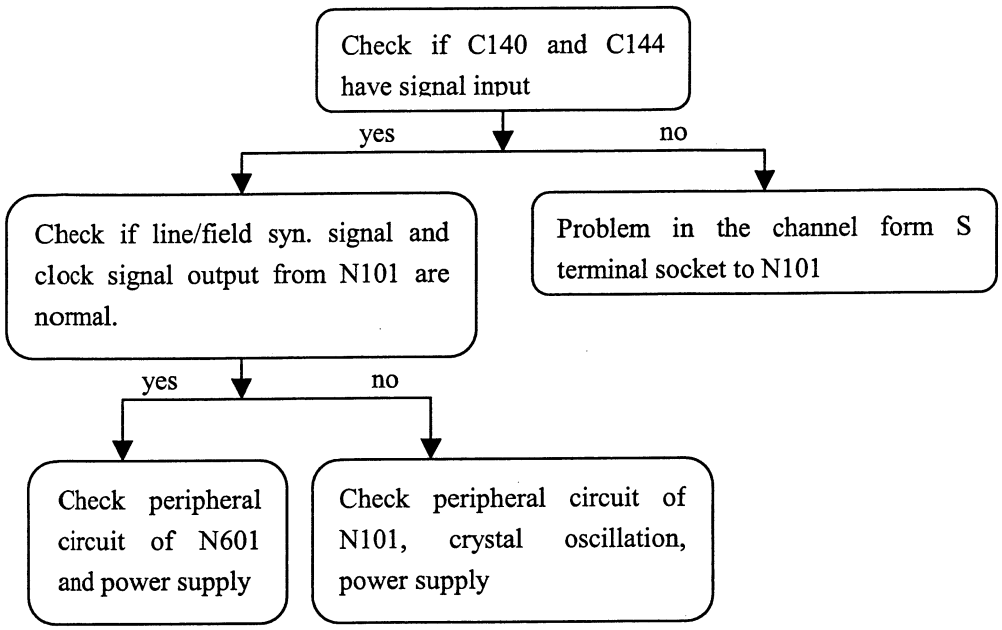
Note:It is after the changeover by external audio switch that the audio signal of high definition, DVI and VGA channels enters MSP3410 through. Therefore if the audio signal of the channels above is in trouble, it is necessary to check the peripheral circuit of N704 on the data processing board as well as the power supply.

5.A certain channel works abnormally

a). No picture in AV


Check if C193 has signal input
yes
no
Check if line/field syn. signal and clock signal output from N101 are normal.
There is trouble in the channel form AV socket to N101
yes
no
Check peripheral circuit of N601, power supply
Check peripheral circuit of N101, crystal oscillation, power supply

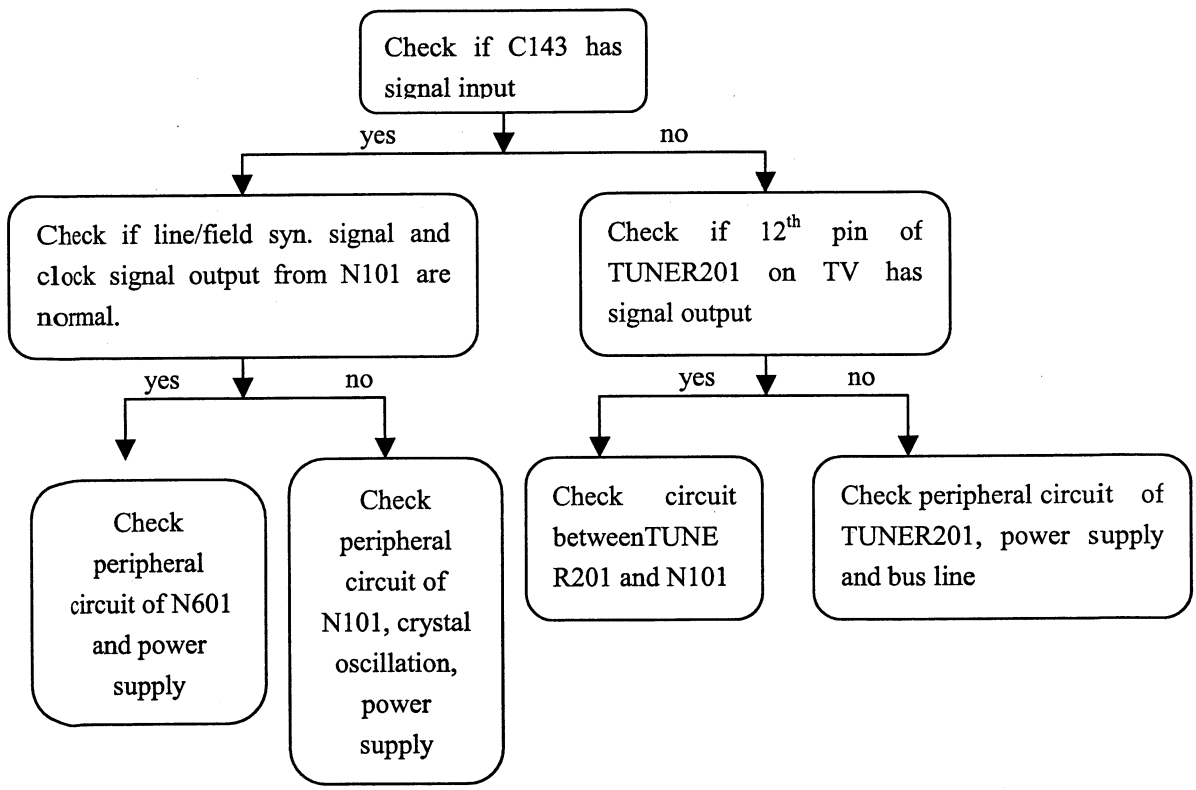
b). No picture for S terminal


Check if C140 and C144 have signal input
yes
no
Check if line/field syn. signal and clock signal output from N101 are normal.
Problem in the channel form S terminal socket to N101
yes
no
Check peripheral circuit of N601 and power supply
Check peripheral circuit of N101, crystal oscillation, power supply

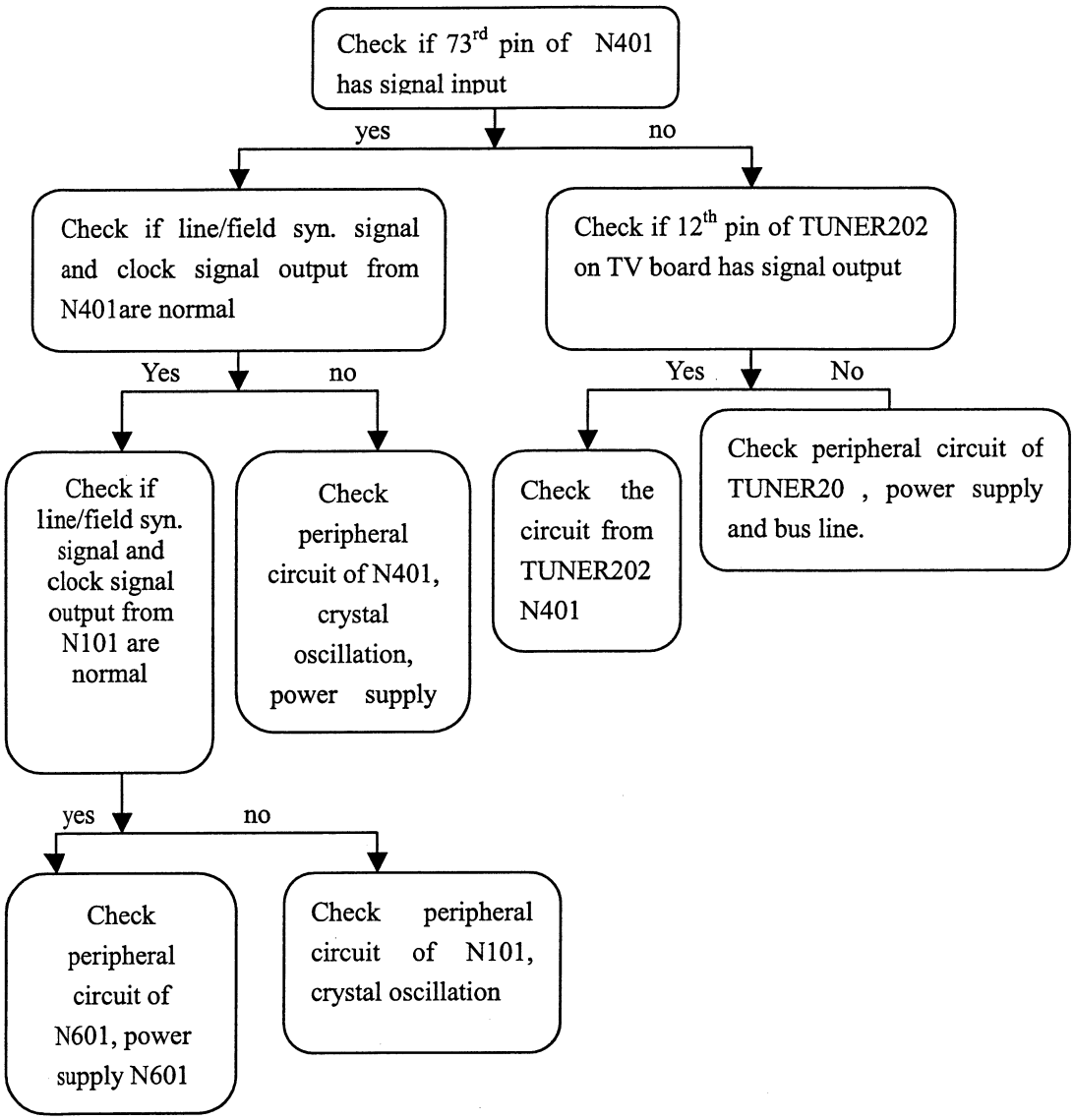
c). No picture in TV channel

First use the double picture function to judge whether the problem lies in the main screen or sub-screen.

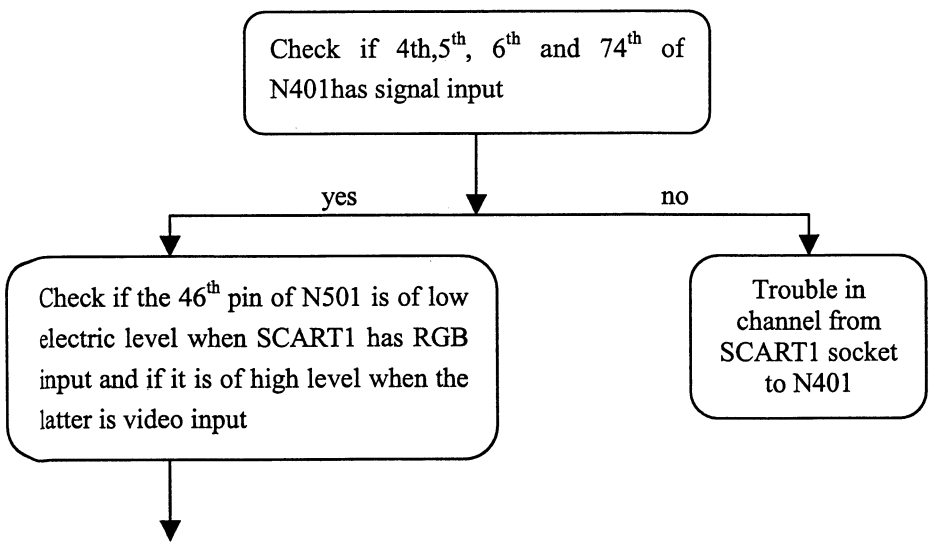
No picture in the main screen:

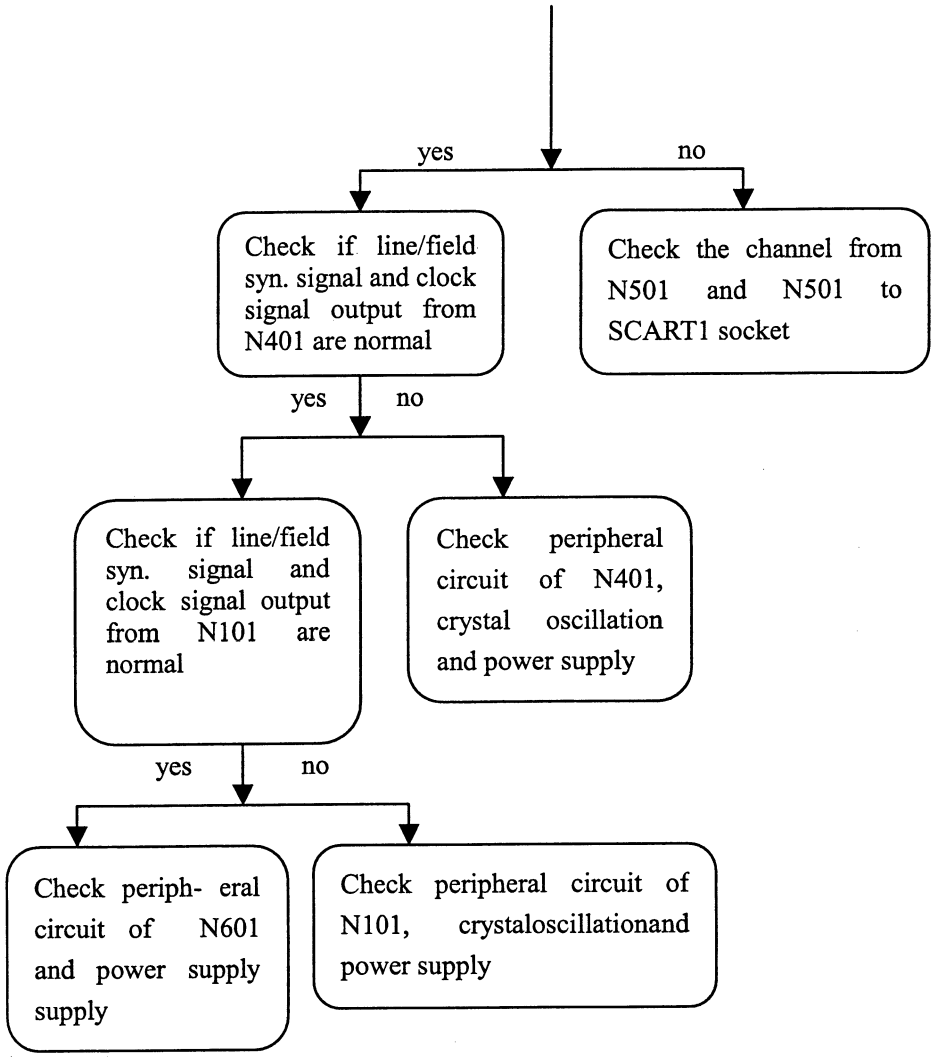

Check if C143 has signal input
yes
no
Check if line/field syn. signal and clock signal output from N101 are normal.
Check if 12th pin of TUNER201 on TV has signal output
yes
no
yes
no
Check peripheral circuit of N601 and power supply
Check peripheral circuit of N101, crystal oscillation, power supply
Check circuit betweenTUNER201 and N101
Check peripheral circuit of TUNER201, power supply and bus line

No picture in sub-screen:

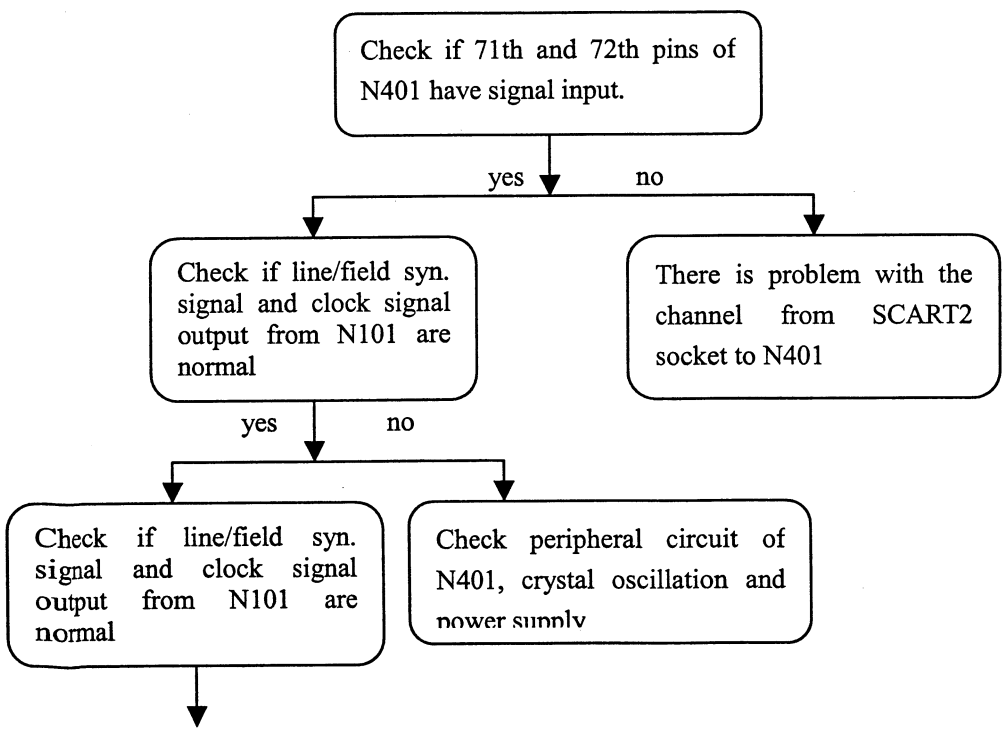

Check if 73rd pin of N401 has signal input
yes
no
Check if line/field syn. signal and clock signal output from N401are normal
Check if 12th pin of TUNER202 on TV board has signal output
Yes
no
Yes
No
Check if line/field syn. signal and clock signal output from N101 are normal
Check peripheral circuit of N401, crystal oscillation, power supply
Check the circuit from TUNER202 N401
Check peripheral circuit of TUNER20 , power supply and bus line.
yes
no
Check peripheral circuit of N601, power supply N601
Check peripheral circuit of N101, crystal oscillation

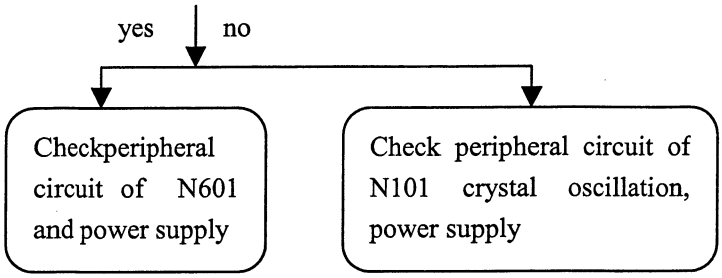
d). No picture in SCART1 channel


Check if 4th,5th, 6th and 74th of N401has signal input
yes
no
Check if the 46th pin of N501 is of low electric level when SCART1 has RGB input and if it is of high level when the latter is video input
Trouble in channel from SCART1 socket to N401

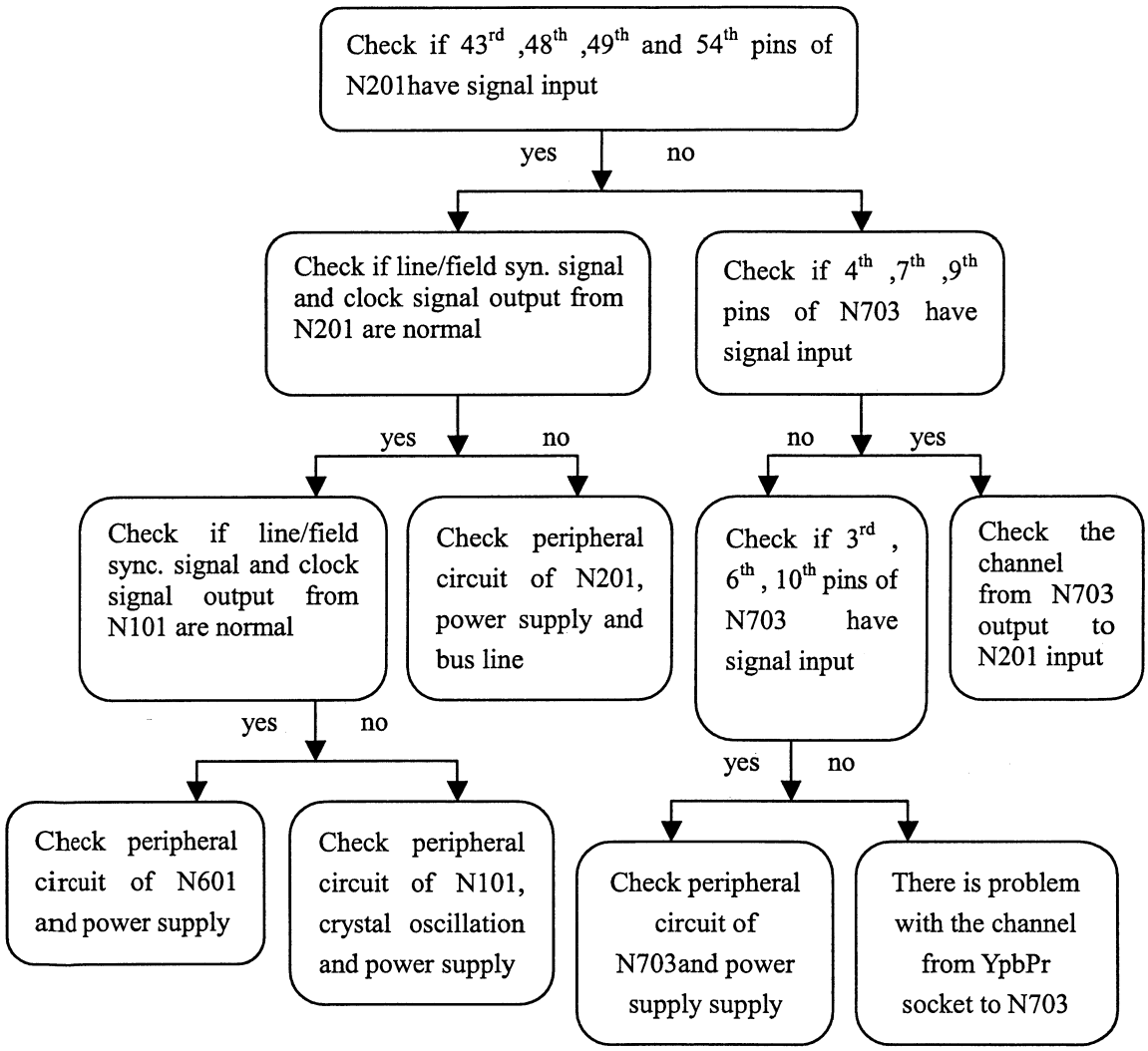

yes
no
Check if line/field syn. signal and clock signal output from N401 are normal
Check the channel from N501 and N501 to SCART1 socket
yes
no
Check if line/field syn. signal and clock signal output from N101 are normal
Check peripheral circuit of N401, crystal oscillation and power supply
yes
no
Check periph- eral circuit of N601 and power supply supply
Check peripheral circuit of N101, crystaloscillationand power supply

e). No picture in SCART2 channel

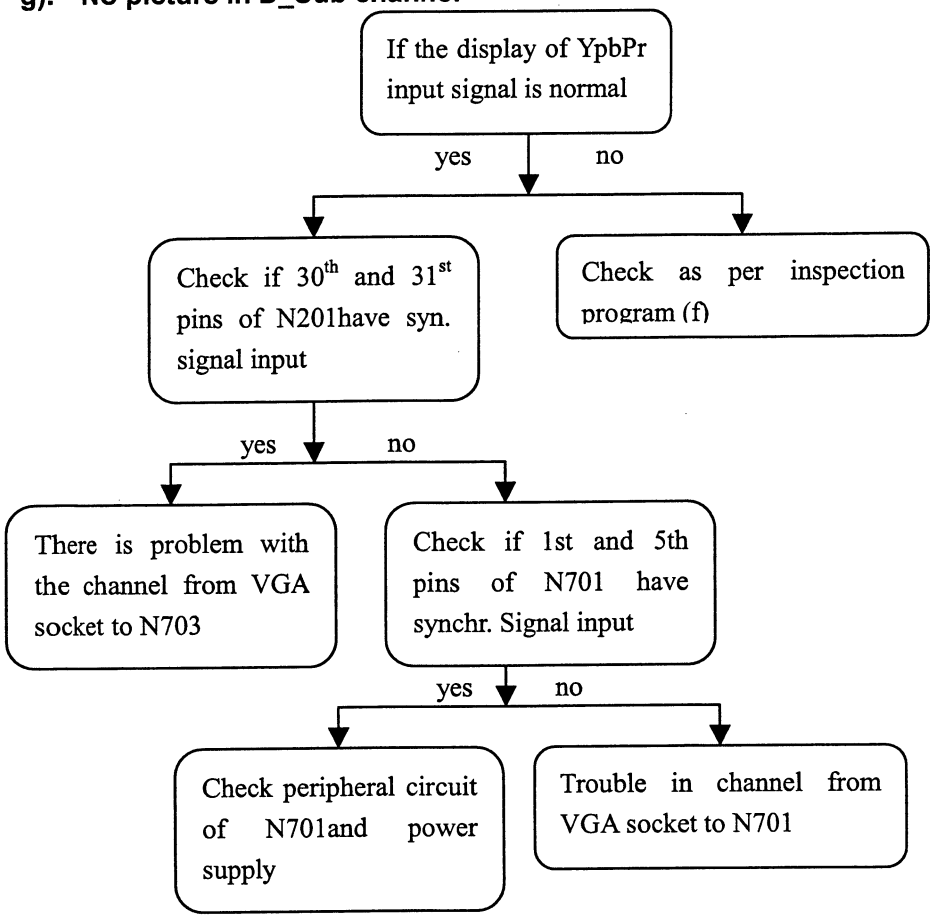

Check if 71th and 72th pins of N401 have signal input.
yes
no
Check if line/field syn. signal and clock signal output from N101 are normal
There is problem with the channel from SCART2 socket to N401
yes
no
Check if line/field syn. signal and clock signal output from N101 are normal
Check peripheral circuit of N401, crystal oscillation and power supply


yes
no
Checkperipheral circuit of N601 and power supply
Check peripheral circuit of N101 crystal oscillation, power supply

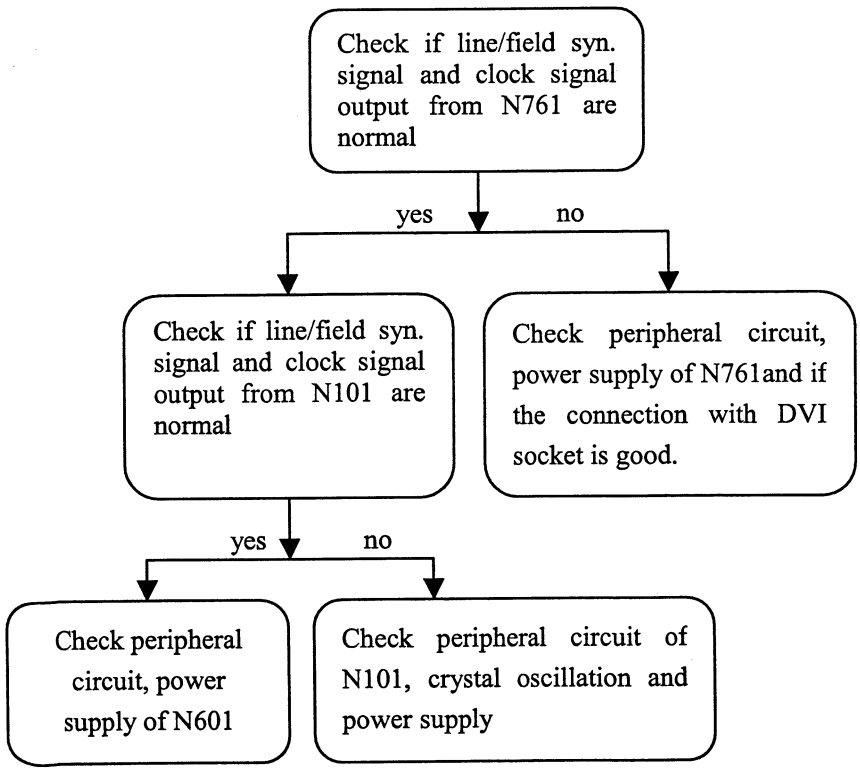
f).No picture in YPbPr/YcbCr channel


Check if 43rd ,48th ,49th and 54th pins of N201have signal input
yes
no
Check if line/field syn. signal and clock signal output from N201 are normal
Check if 4th ,7th ,9th pins of N703 have signal input
yes
no
no
yes
Check if line/field sync. signal and clock signal output from N101 are normal
Check peripheral circuit of N201, power supply and bus line
Check if 3rd , 6th , 10th pins of N703 have signal input
Check the channel from N703 output to N201 input
yes
no
yes
no
Check peripheral circuit of N601 and power supply
Check peripheral circuit of N101, crystal oscillation and power supply
Check peripheral circuit of N703and power supply supply
There is problem with the channel from YpbPr socket to N703

g). No picture in D_Sub channel


If the display of YpbPr input signal is normal
yes
no
Check if 30th and 31st pins of N201have syn. signal input
Check as per inspection program (f)
yes
no
There is problem with the channel from VGA socket to N703
Check if 1st and 5th pins of N701 have synchr. Signal input
yes
no
Check peripheral circuit of N701and power supply
Trouble in channel from VGA socket to N701

h).No picture in DVI channel


Check if line/field syn. signal and clock signal output from N761 are normal
yes
no
Check if line/field syn. signal and clock signal output from N101 are normal
Check peripheral circuit, power supply of N761and if the connection with DVI socket is good.
yes
no
Check peripheral circuit, power supply of N601
Check peripheral circuit of N101, crystal oscillation and power supply

Note: To enable DVI picture to be displayed normally, especially to be connectable with the computer display card, the top priority is to ensure that N762(DDC chip of DVI port) are well flash written. When picture signal is with HDCP,it is also necessary to ensure that the KEY in HDCP of N760 are well flash written.

7. Abnormal picture on screen

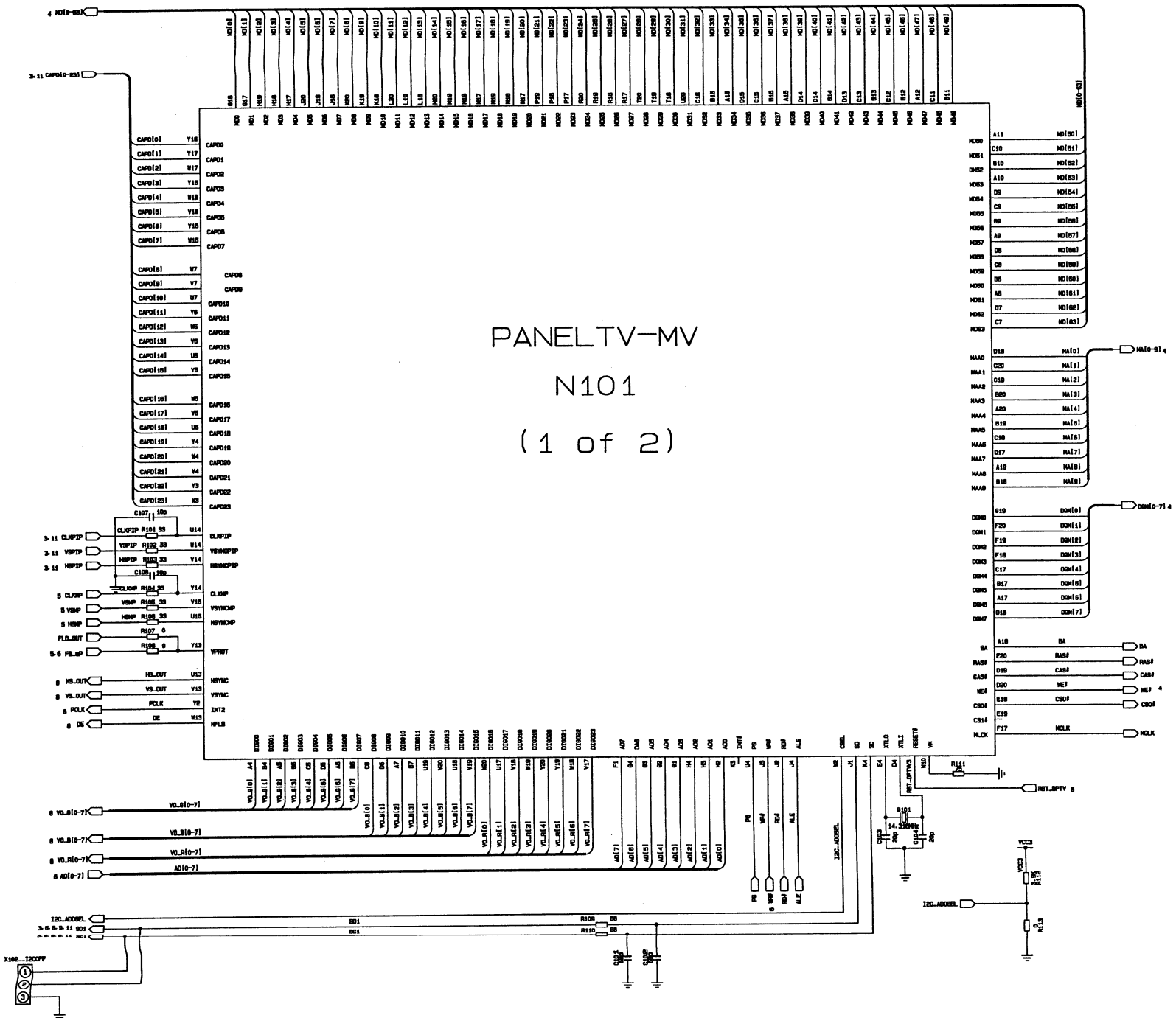
1). A certain LVDS differential line of X601 LVDS is abnormal against(RX0+/-,RX1+/-,RX2+/-,RX3+/-), which may result in under coloring or color speckle;

2). R602~R607 resistor array in trouble,which may result in the loss of corresponding color in corresponding gray degree for the picture of all channels;

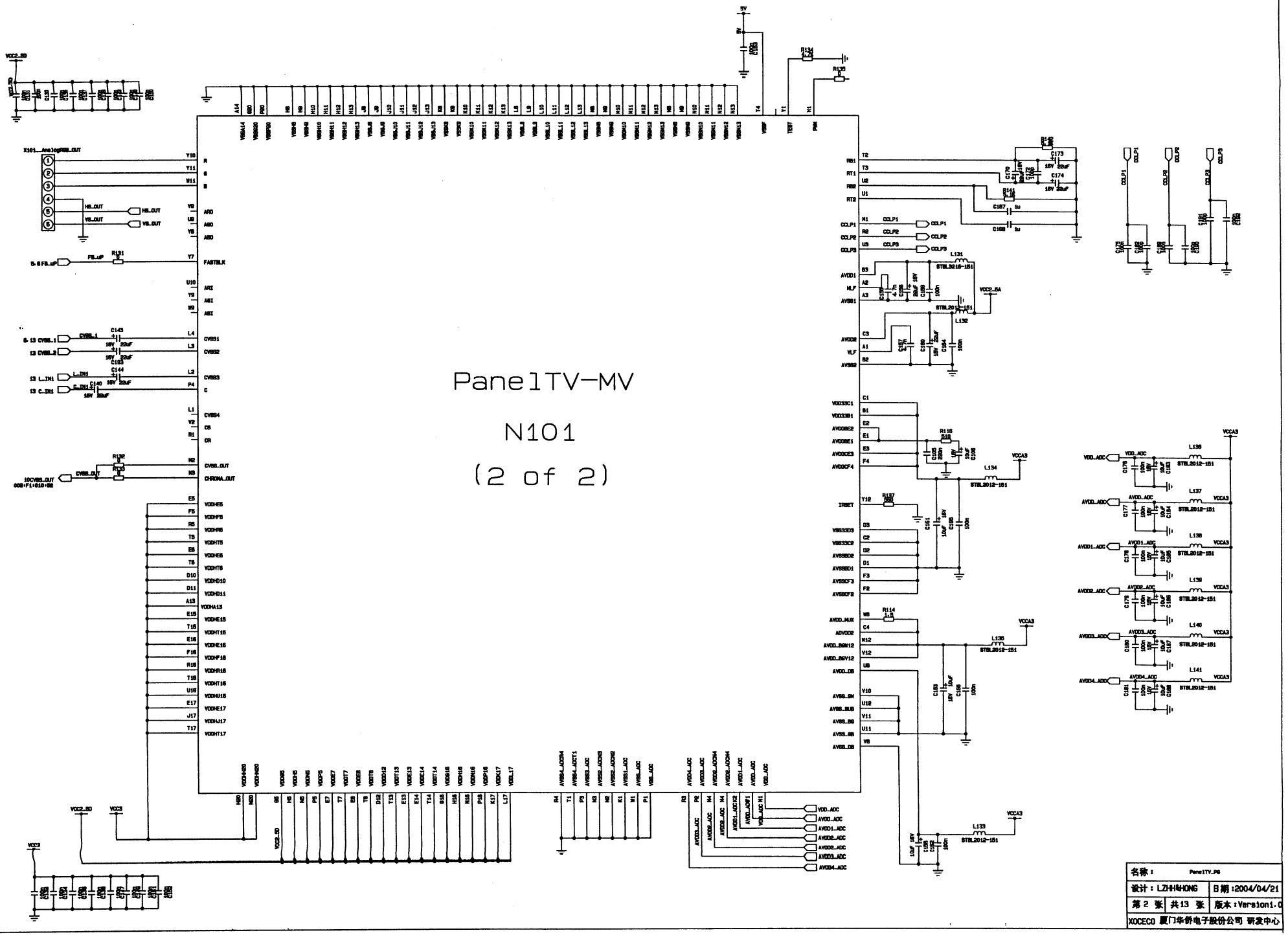
3). R205~R210 resistor array in trouble,which may result in the loss of corresponding color in corresponding gray degree for the picture of YPbPr/VGA channel;

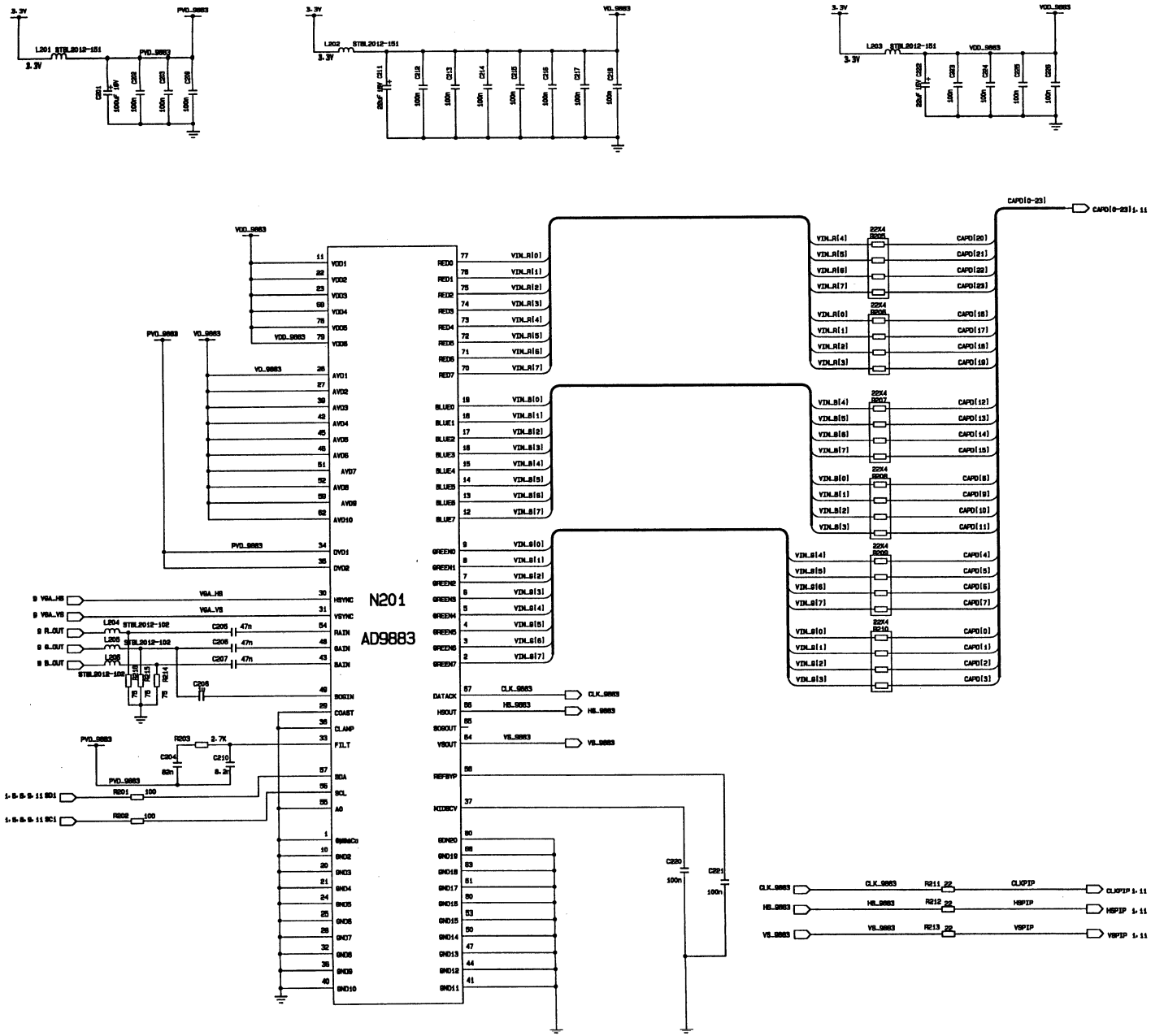
4). R777~R782 resistor array in trouble,which may result in the loss of corresponding color in corresponding gray degree for the picture of DVI channel;

5). R414 and R415 resistor array in trouble,which may result in abnormality in the picture of SCART and TV sub screen.

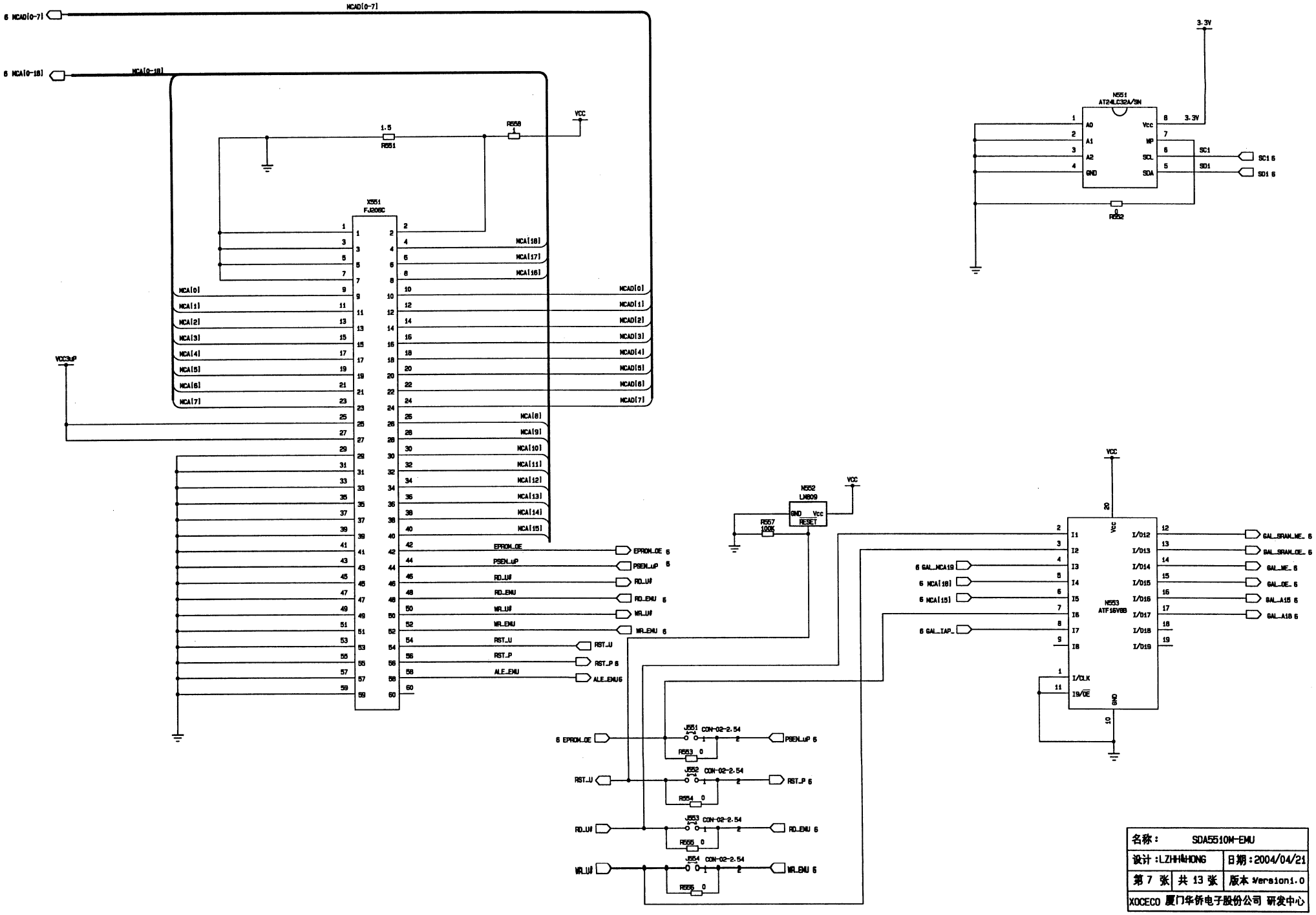


名称：	PanelTV_Main
设计：LZHHHONG	日期：2004/04/21
第 1 张 共 13 张	版本：Version1.0
XOCECO 厦门华侨电子股份公司 研发中心	

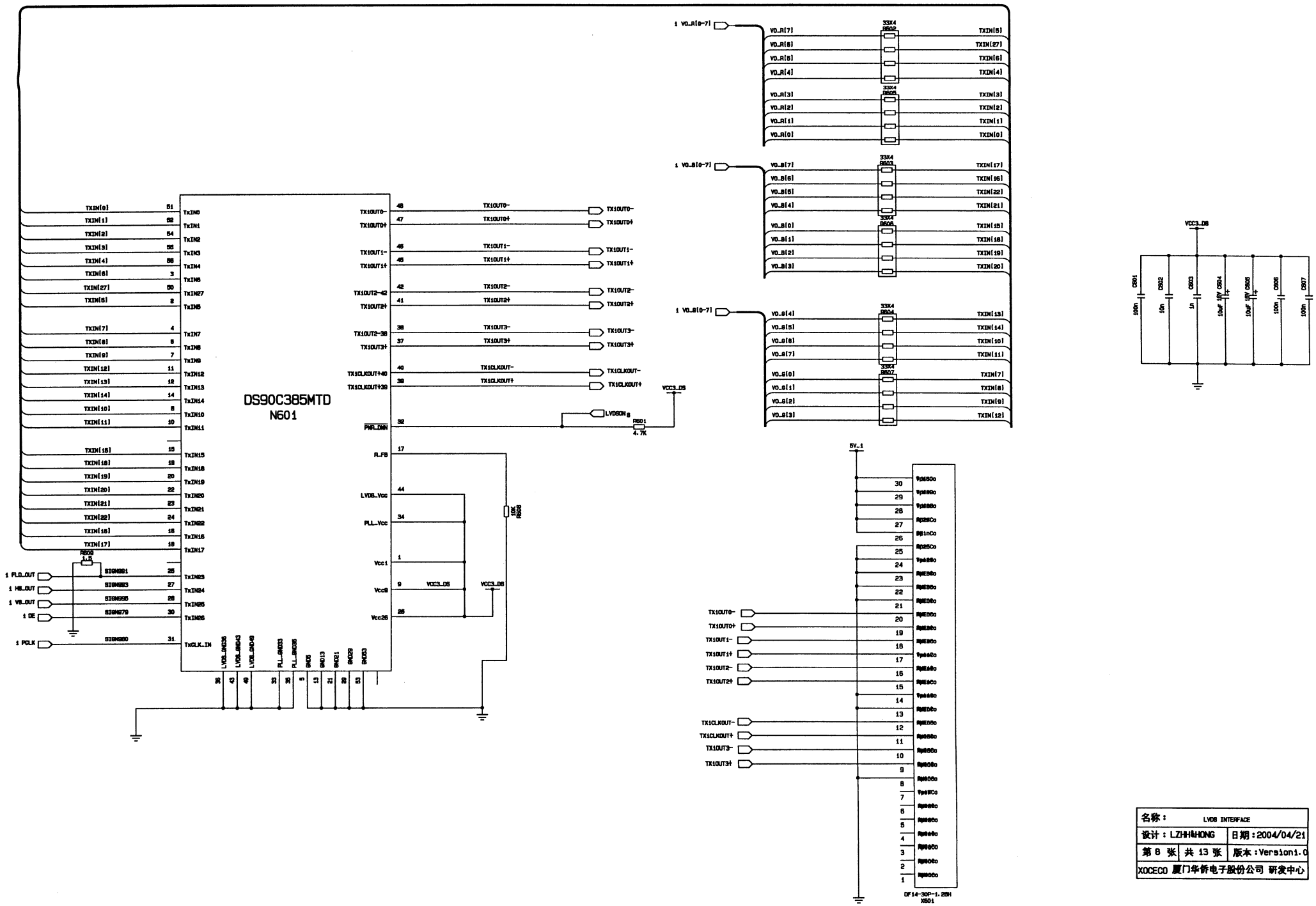

Panel TV-MV
N101
(2 of 2)
名称：
设计：LZH&HONG
日期:2004/04/21
第 2 张
共13 张
版本：Version1.0
XOCECO 厦门华侨电子股份公司 研发中心



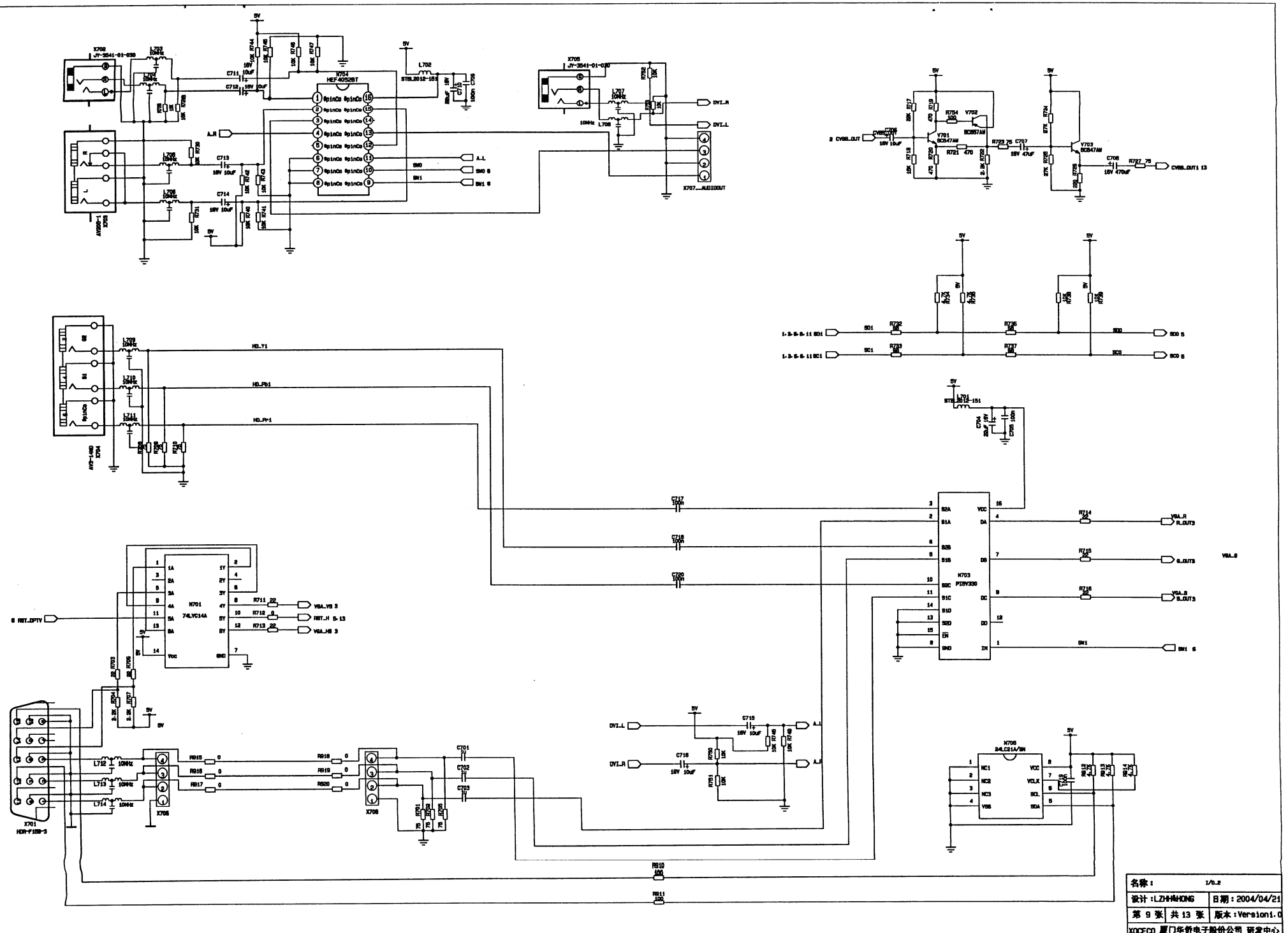
名称：	MST9883	
设计：LZHHHONG		日期：2004/04/21
第 3 张	共 13 张	版本：Version1.0
XOCECO 厦门华侨电子股份公司 研发中心		

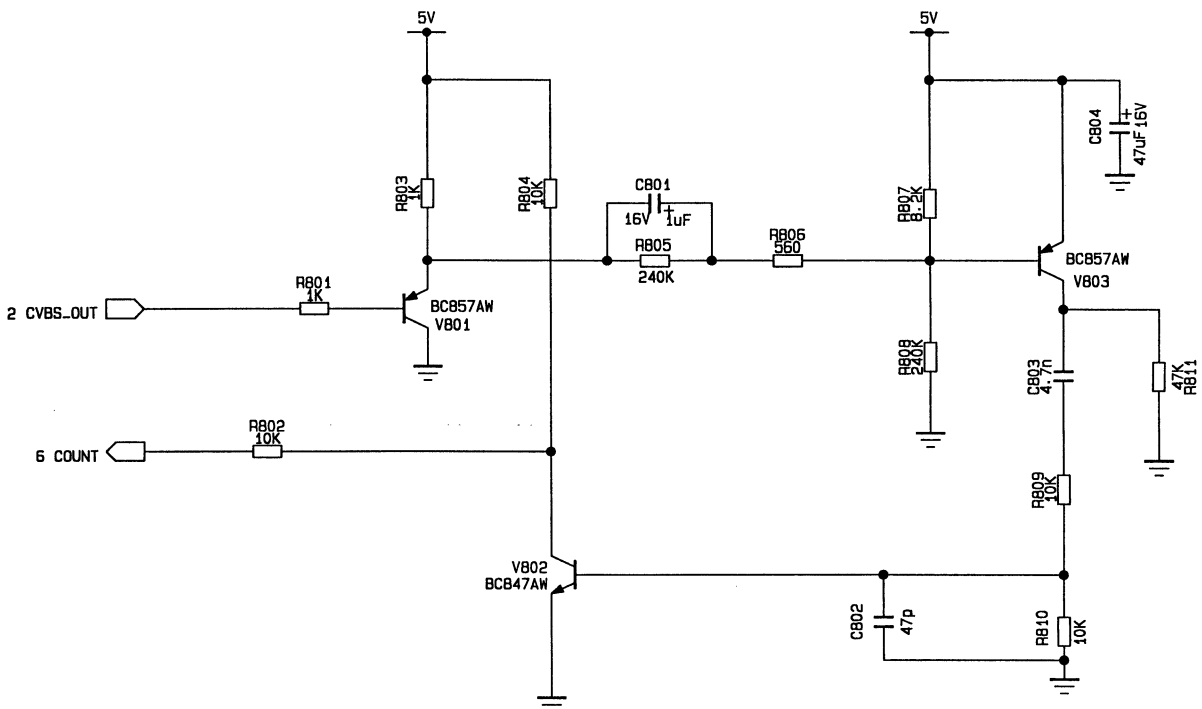


名称：	SDA5510M-EMU	
设计：LZHHHONG		日期：2004/04/21
第 7 张	共 13 张	版本 Version1.0
XOCECO 厦门华侨电子股份公司 研发中心		

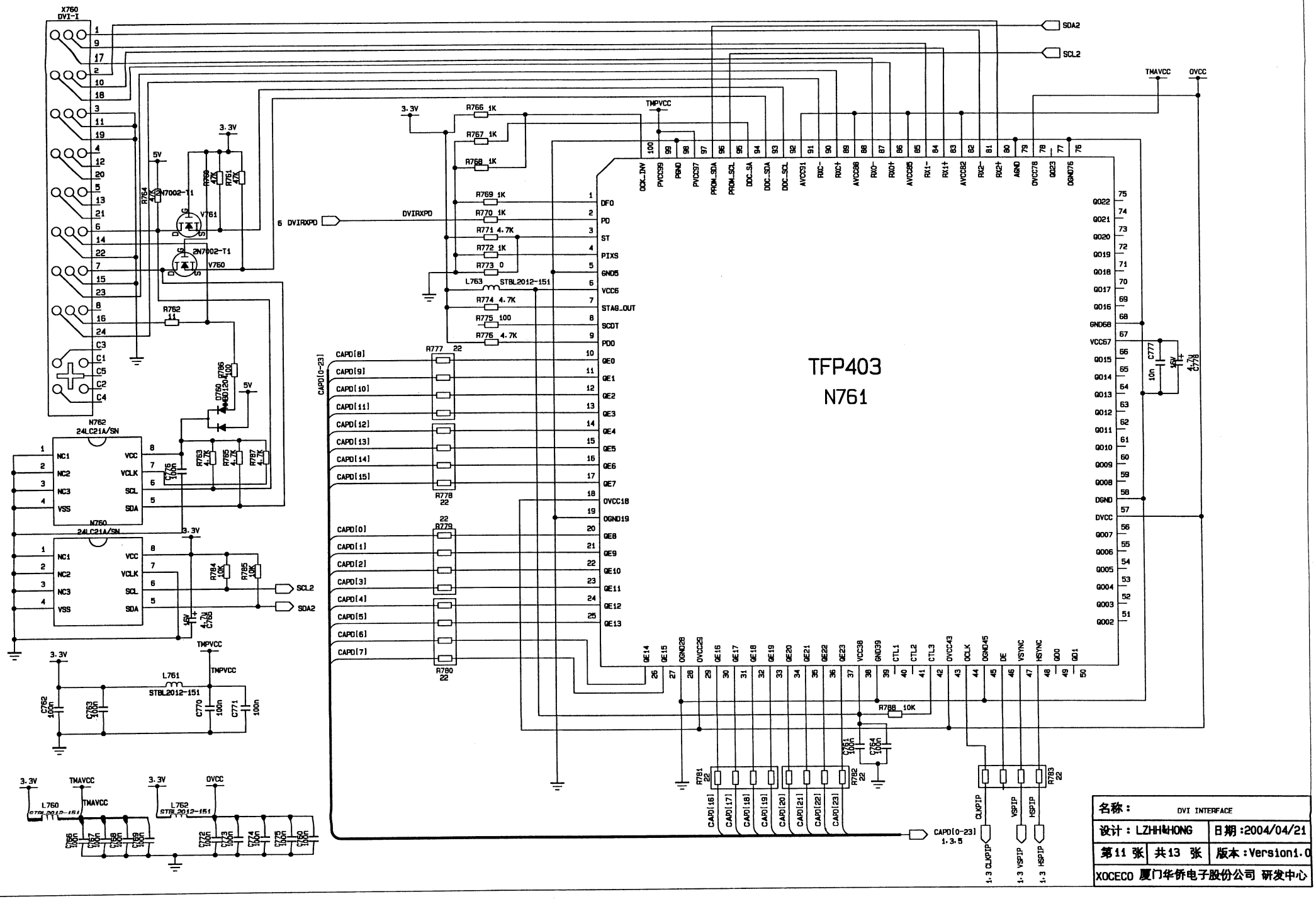


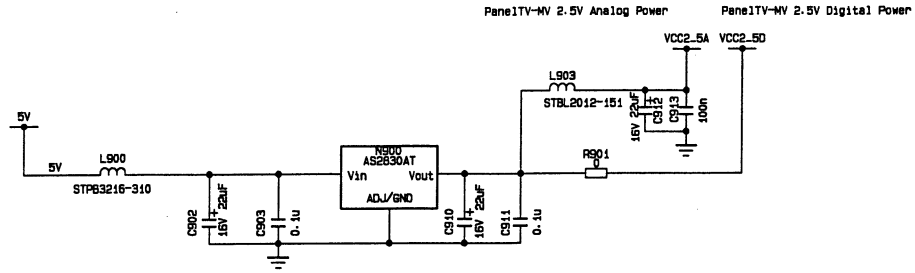
名称：	LVDS INTERFACE	
设计：LZHH&HONG		日期：2004/04/21
第 8 张	共 13 张	版本：Version1.0
XOCECO 厦门华侨电子股份公司 研发中心		

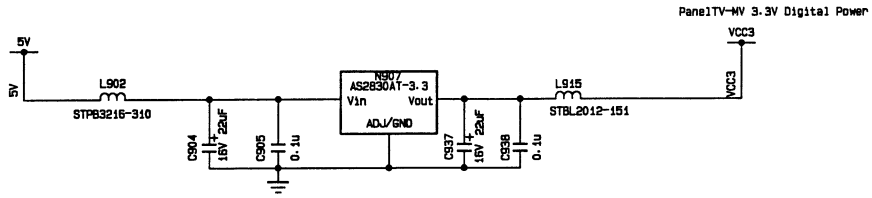

X702
JY-3541-01-030
X705
JY-3541-01-030
X704
HEF4052BT
X707__AUDIOOUT
AVS00-1
X703
AVS5-1
X704
X701
74LVC14A
X706
X708
N703
P10V330
N705
24LC21A/SN
HDR-F15SB-3
A_R
A_L
DVI_R
DVI_L
HD_Y1
HD_Pb1
HD_Pr1
SW0
SW1
SW0 6
SW1 6
SD1
SC1
SD0
SC0
SD0 5
SC0 5
CVBS_OUT
CVBS_OUT1 13
VGA_R
R_OUT3
G_OUT3
VGA_B
B_OUT3
VGA_G
VGA_VS 3
VGA_HS 3
RST_H 5 13
6 RST_DPTV
5V
3V
名称：
I/O_2
设计：LZHHAHONG
日期：2004/04/21
第 9 张
共 13 张
版本：Version1.0
XOCECO 厦门华侨电子股份公司 研发中心

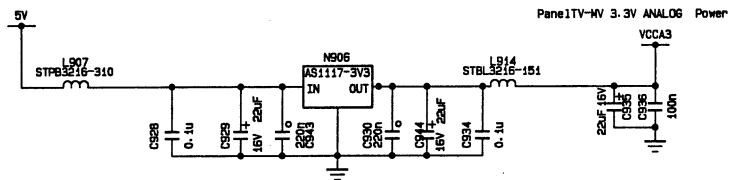


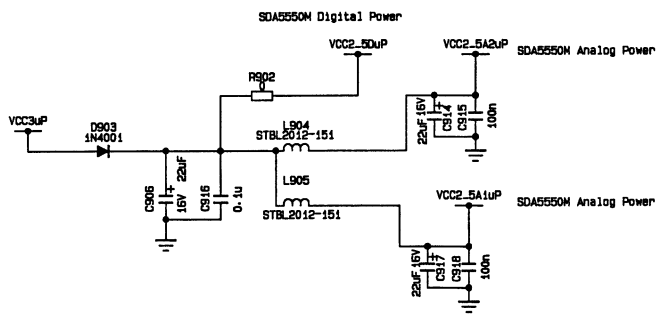
名称： SIGNAL_DETECT		
设计：LZHH&HONG		日期：2004/04/21
第10 张	共13 张	版本：Version1.0
XOCECO 厦门华侨电子股份公司 研发中心		

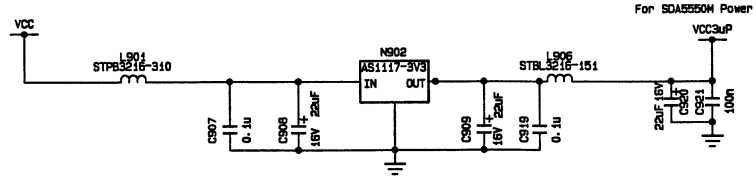

X760
DVI-I
TFP403
N761
DVIRXPD
SDA2
SCL2
TMAVCC
OVCC
TMPVCC
3.3V
5V
N762
24LC21A/SN
N760
24LC21A/SN
V761
2N7002-T1
V760
2N7002-T1
D760
MBR0120
L763
STBL2012-151
L761
STBL2012-151
L760
STBL2012-151
L762
STBL2012-151
CAPD[0-23]
CAPD[16]
CAPD[17]
CAPD[18]
CAPD[19]
CAPD[20]
CAPD[21]
CAPD[22]
CAPD[23]
CLKPIP
VSPIP
HSPIP
名称：
DVI INTERFACE
设计：LZHH&HONG
日期：2004/04/21
第11张
共13张
版本：Version1.0
XOCECO 厦门华侨电子股份公司 研发中心



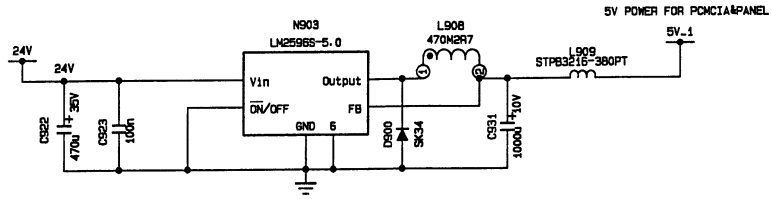


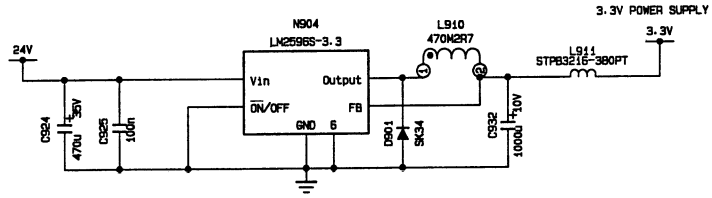


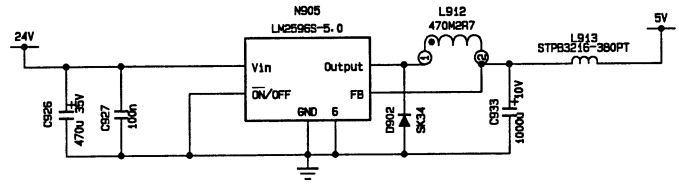


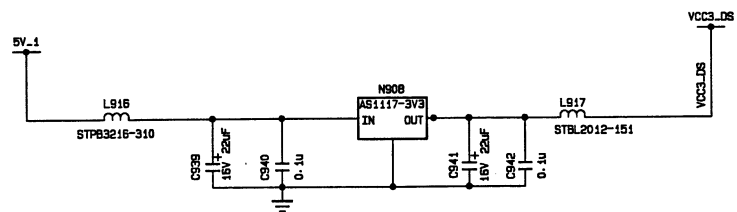


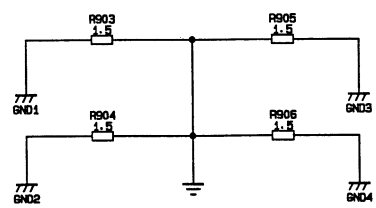
名称：	POWER	
设计 :LZHH&HONG		日期 :2004/04/21
第12 张	共13 张	版本 :Version1.0
XOCECO 厦门华侨电子股份公司 研发中心		



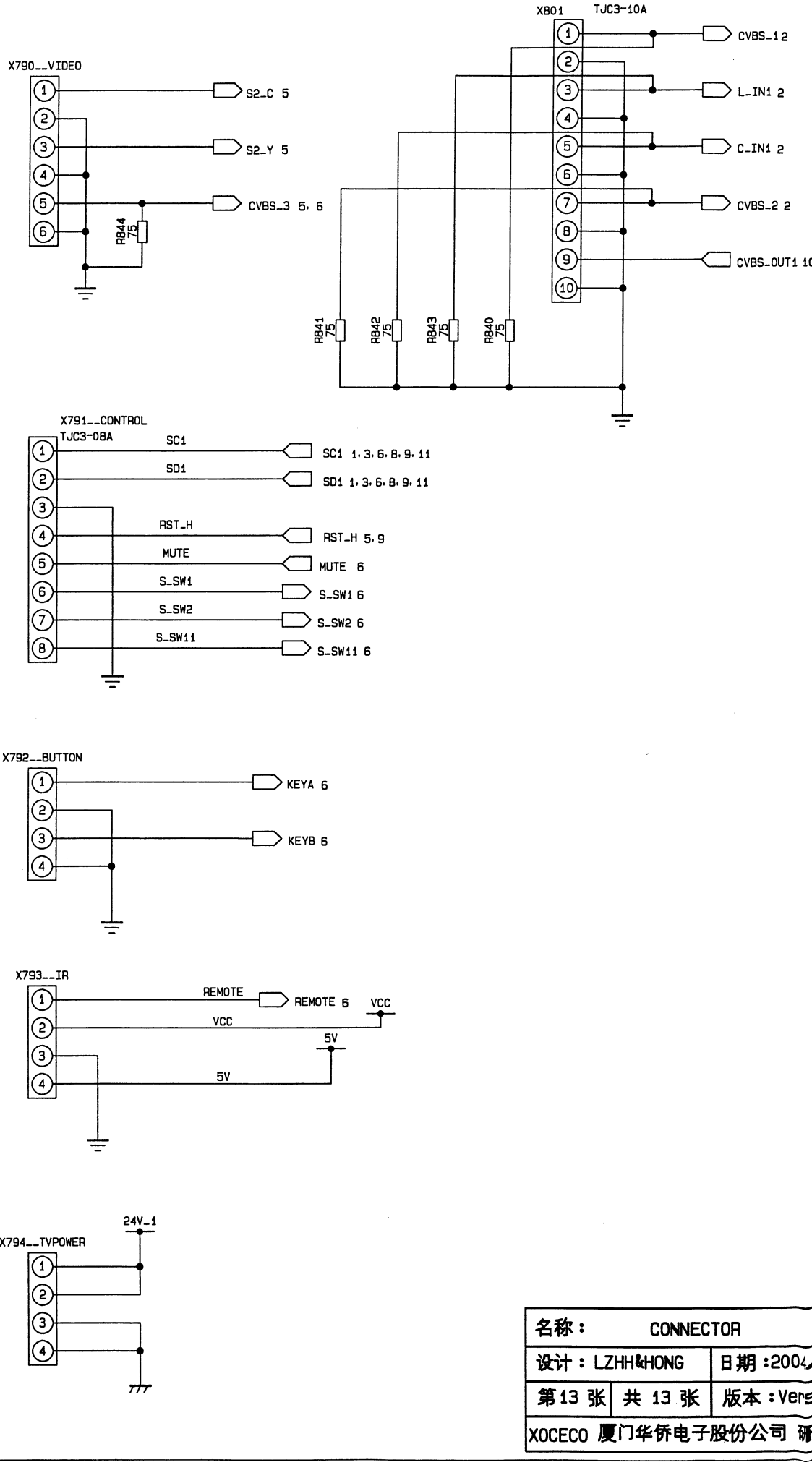




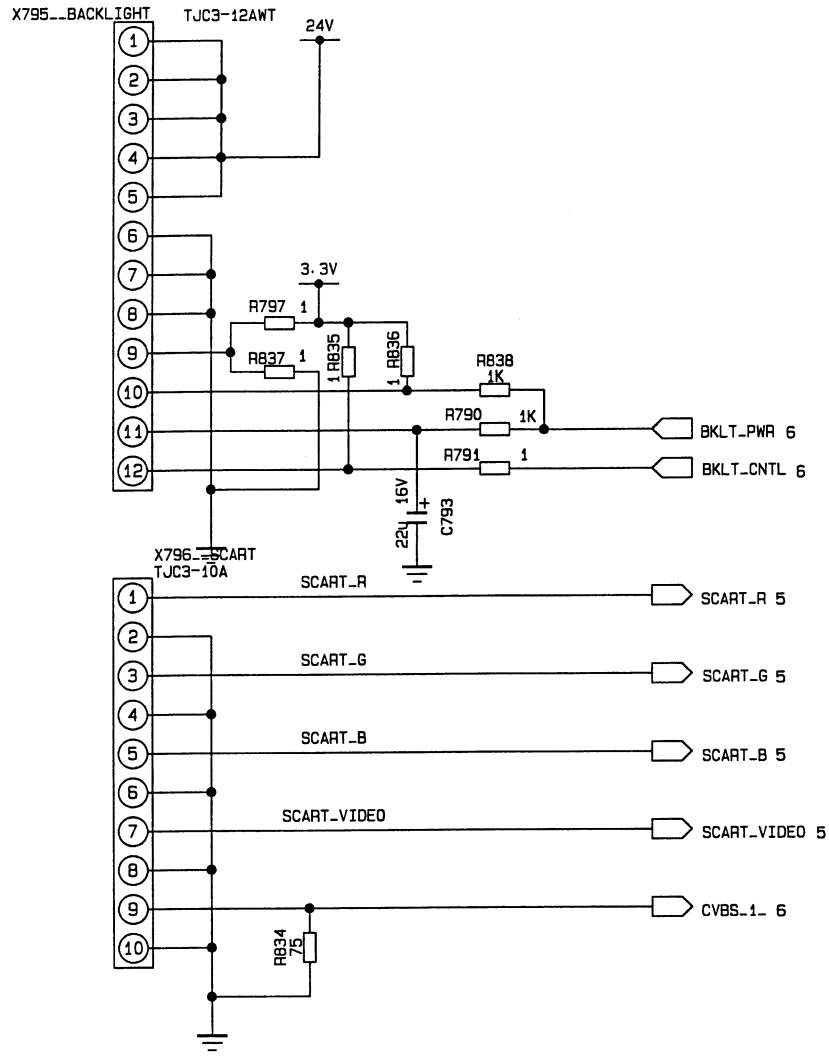


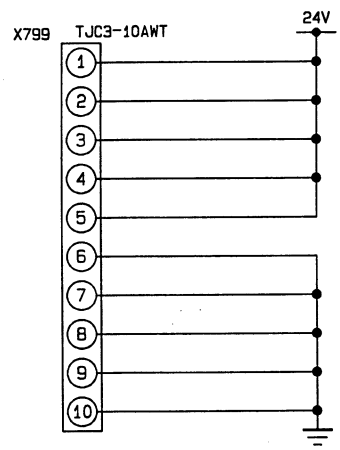


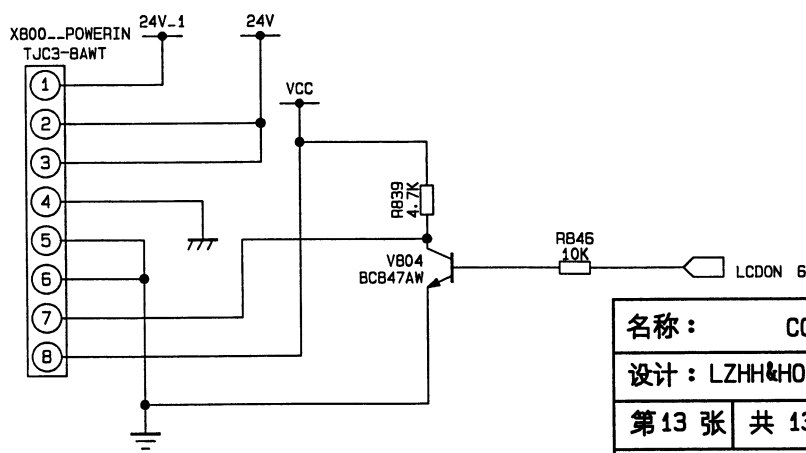
名称：	POWER	
设计：LZHH&HONG		日期：2004/04/21
第12 张	共13 张	版本：Version1-0
XOCECO 厦门华侨电子股份公司 研发中心		



名称： CONNECTOR		
设计：LZHH&HONG		日期：2004/04/21
第13张	共 13 张	版本：Version1.0
XOCECO 厦门华侨电子股份公司 研发中心		



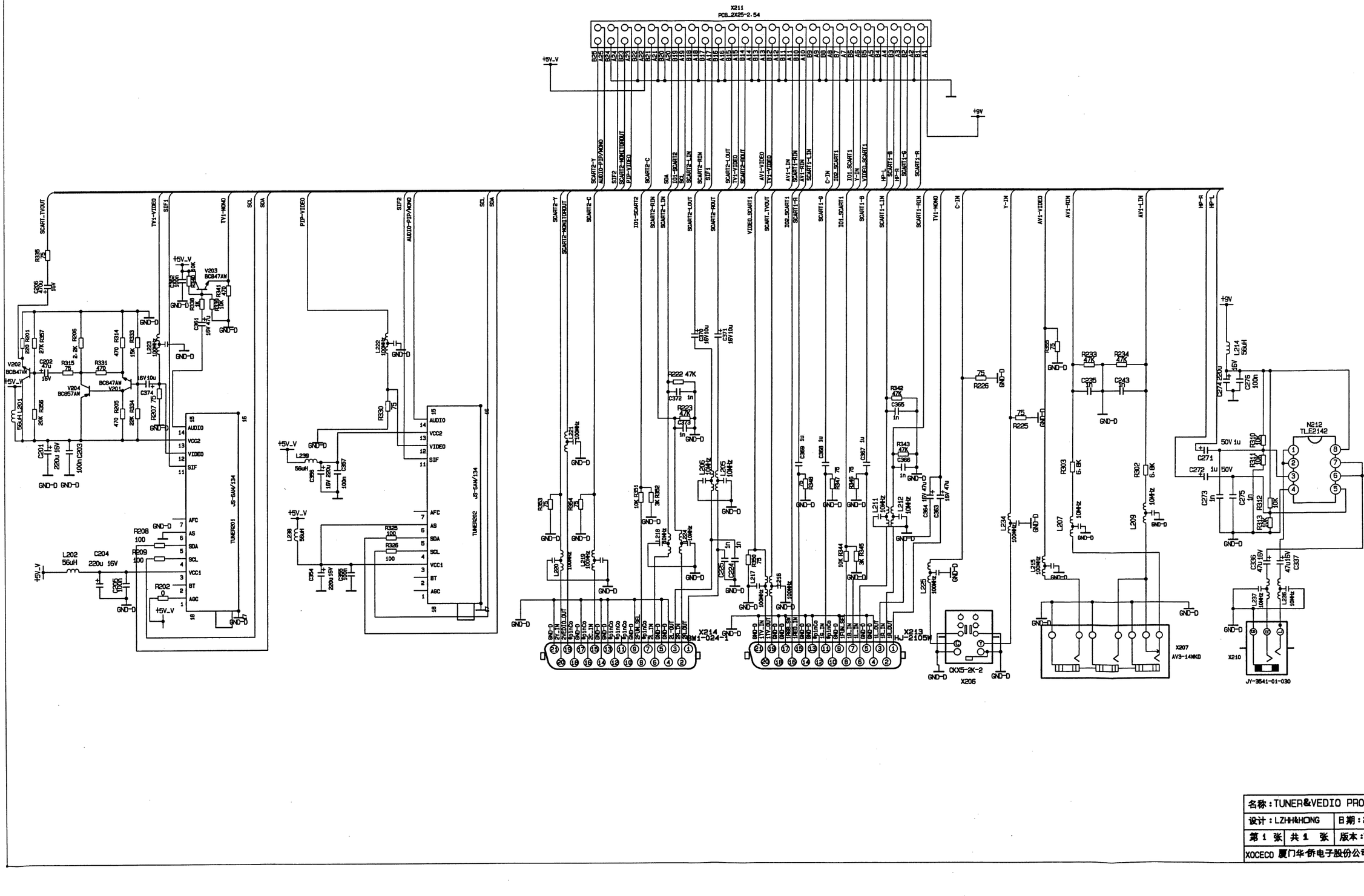




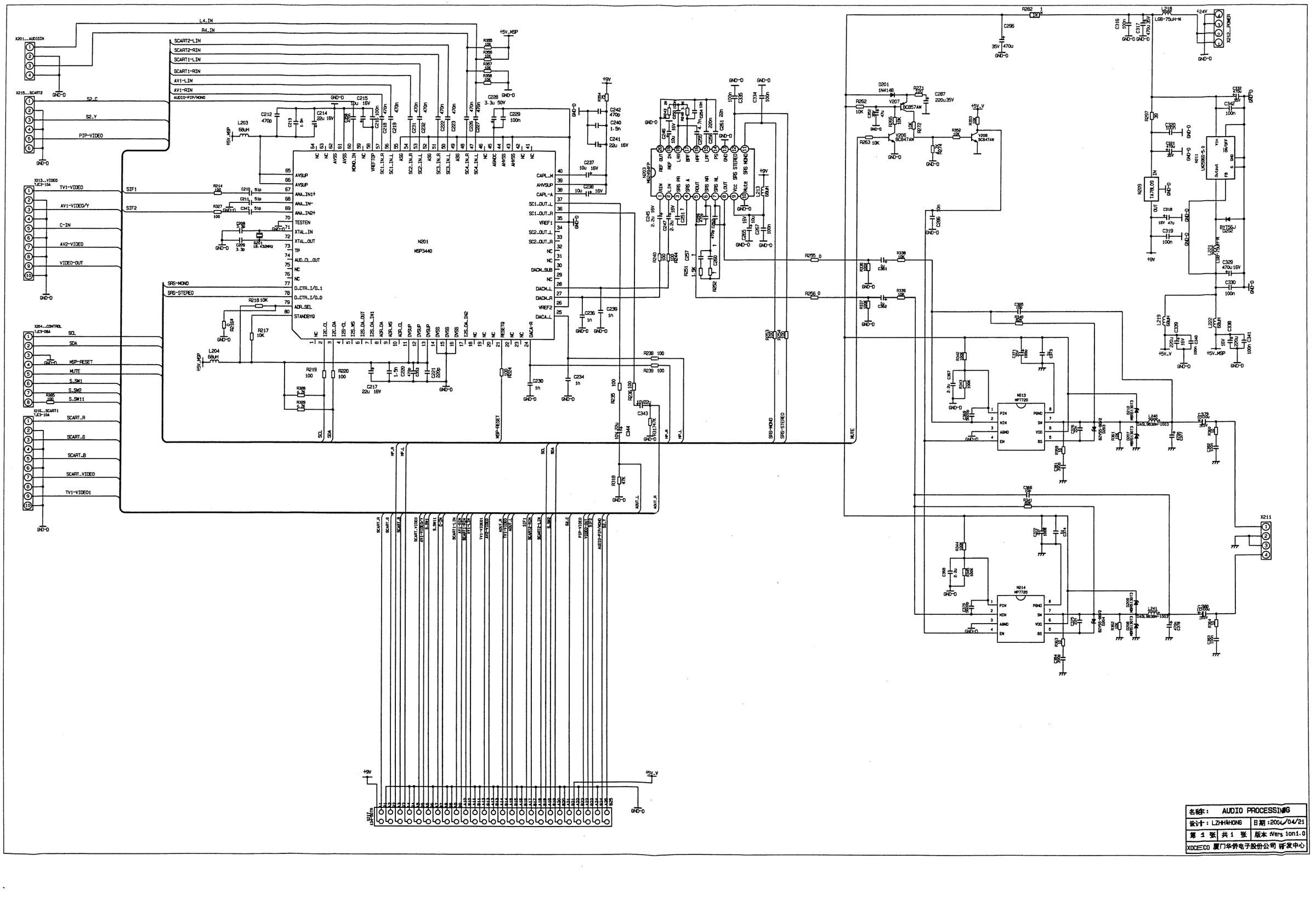
名称： CONNECTOR		
设计： LZHH&HONG		日期：2004/04/21
第13 张	共 13 张	版本：Version1.0
XOCECO 厦门华侨电子股份公司 研发中心		

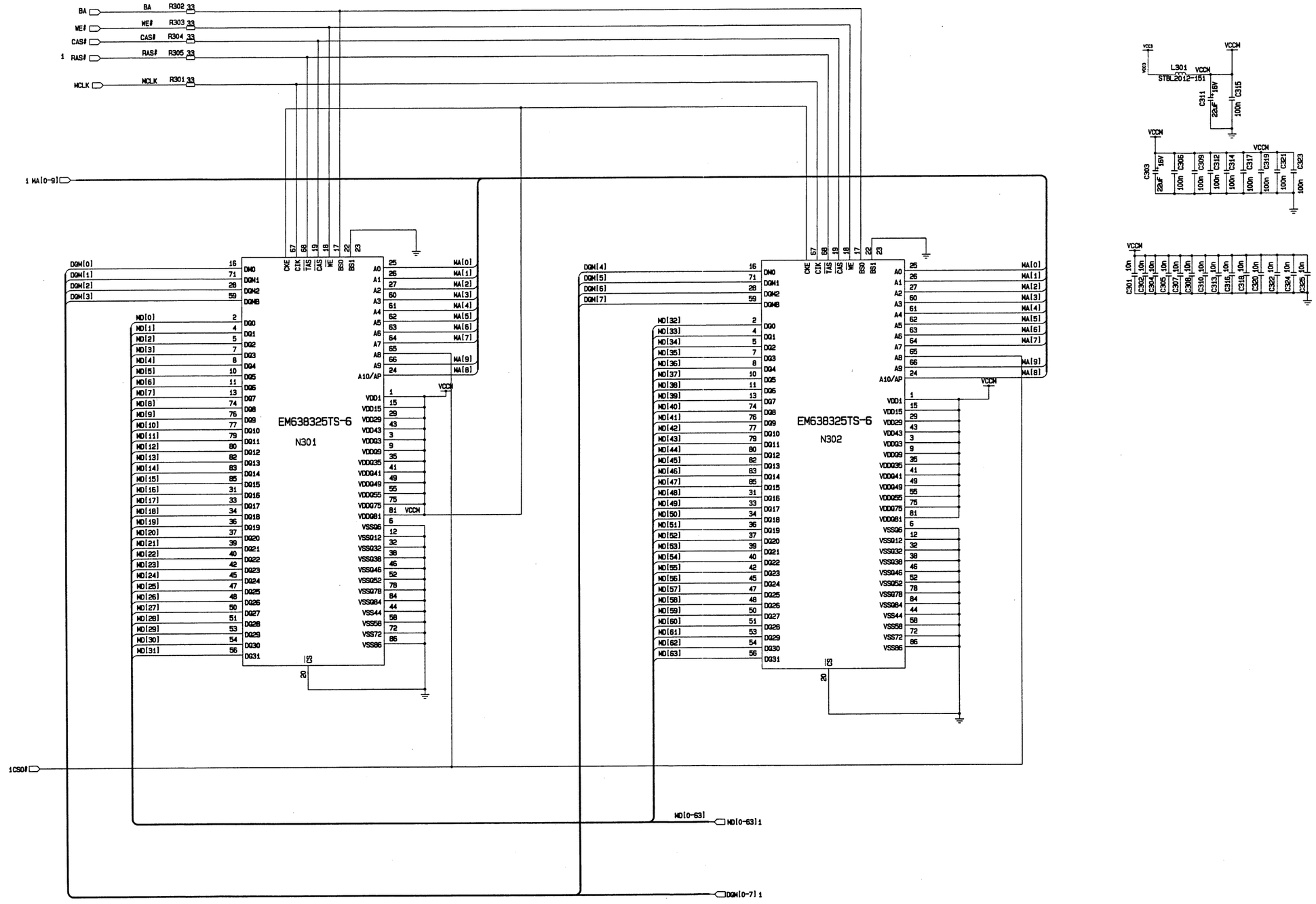
Spare Parts List

ID	Part number	Description
1	523-L27M6-02	FRONT CABINET ASS'Y
2	523-L27M6-03	BACK CABINET ASS'Y
3	667-L27M6-20A	POWER BOARD ASS'Y
4	667-L27M7S-40	PROCESSING BOARD
5	667-L27M7S-69/15	SOUND BOARD
6	535-L27M6-11	STAND
7	535-L27M6-13	CONNECT LINE ASS'Y
8	535-L27M6-14	SPEAKER ASS'Y
9	301-UL27M6-37R	REMOTE CONTROL
10	886-31492-19	PACKING BOX
13	880-10634-B1	FRONT NAMEPLATE
14	894-70030-11	WASHER
15	870-10207-00	BRACKET
29	863-81117-00	POLY FOAM
30	863-81118-00	POLY FOAM
31	863-81119-00	POLY FOAM
32	863-81120-00	POLY FOAM
33	535-L27M6-15	POWER SOCKET ASS'Y
34	604-L27M6S9-04	USERMANUAL
35	142-21311-00	RUBBER TAP
36	142-21260-00	RUBBER TAP
37	887-20047-01	ACCESSORY BAG
38	142-22318-00	RUBBER TAP
40	808-20324-202	ACRYL PANEL
41	808-10689-AF0A	COVER PLATE
42	808-10687-AF0A	COVER PLATE
43	808-10688-AF0	COVER PLATE



名称：TUNER&VEDIO PROCESSING		
设计：LZHH&HONG		日期：2004/04/21
第 1 张	共 1 张	版本：Version: 0
XOCECO 厦门华侨电子股份公司 研发中心		


X201...AUDIOIN
X215...SCART2
X213...VIDEO
TJC3-10A
X204...CONTROL
TJC3-08A
X216...SCART1
TJC3-10A
X212...POWER
X211
L4_IN
R4_IN
SCART2-LIN
SCART2-RIN
SCART1-LIN
SCART1-RIN
AV1-LIN
AV1-RIN
AUDIO-PIP/MONO
S2_C
S2_Y
PIP-VIDEO
TV1-VIDEO
AV1-VIDEO/Y
C-IN
AV2-VIDEO
VIDEO-OUT
SCART_R
SCART_G
SCART_B
SCART_VIDEO
TV1-VIDEO1
SCL
SDA
MSP-RESET
MUTE
S_SW1
S_SW2
S_SW11
SIF1
SIF2
SRS-MONO
SRS-STEREO
HP_R
HP_L
N201
MSP3440
N203
MSP3415D-PP
N213
MP7720
N214
MP7720
L203
68uH
L204
68uH
L218
LGB-75UH-M
L219
68uH
L220
68uH
L221
LGB-75UH-M
L222
68uH
L245
DASL5838M-1003
L241
DASL5838M-1003
Q301
18.432MHz
+5V_MSP
+5V_V
+9V
+24V
GND-D
BC857AW
BC847AW
BYV26E-HF2
BYV26C
MBRS130T3
1N4148
TA78L05
LM1117MPX-5.0
BYV56J
DZ02
SW_OFF
Vin
Output
GND
FB
IN
OUT
NC
AVSUP
ANA_IN1+
ANA_IN-
ANA_IN2+
TESTEN
XTAL_IN
XTAL_OUT
TP
AUD_CL_OUT
D_CTR_I/O_1
D_CTR_I/O_0
ADR_SEL
STANDBYQ
CAPL_M
AHVSUP
CAPL_A
SC1_OUT_L
SC1_OUT_R
VREF1
SC2_OUT_L
SC2_OUT_R
DACM_SUB
DACM_L
DACM_R
VREF2
DACA_L
DACA_R
SCL
SDA
MSP_RESET
MUTE
SRS_MONO
SRS_STEREO
HP_R
HP_L
ADOUT_R
ADOUT_L
名称： AUDIO PROCESSING
设计： LZHHONG
日期：2004/04/21
第 1 张 共 1 张
版本 Version1.0
XOCECO 厦门华侨电子股份公司 研发中心



名称：	Panel TV_SDRAM		
设计： LZHHONG		日期：2010/04/21	
第 4 张	共 13 张	版本：	
XOCECO 厦门华侨电子股份公司		技术中心	

N401

VPC3230D

名称：	VPC3230		
设计：LZHH&HONG		日期：2004/04/21	
第 5 张	共 13 张	版本：Version1.0	
XOCECO 厦门华侨电子股份公司 研发中心			

7 MCAD[0-7]
MCAD[0-7]
MCAD[5] MCAD[0] MCAD[6] MCAD[7] MCA[0] MCA[1] MCA[2] MCA[10] MCA[3] MCA[4] MCA[11] MCA[15] MCA[9] MCA[6] MCA[8] MCA[7]
ALE_EMU 7
VCC2_5DuP
C510 100n
7 MCA[0-18]
MCA[0-18]
R519 10X4
R520 10X4
R521 10X4
R522 10X4
PSEN_uP 7
VCC3uP
VCC2_5DuP
C503 100n
16V 47uF C506
16V 100uF C504
C505 100n
C508 100n
R512 10X4
MCAD[1] MCAD[4] MCAD[2] MCAD[3]
D1 D4 D2 D3 XRON VDD2.5 VSS VDD3.3
C502 100n
P0.0 P0.1 P0.2 P0.3 P0.4 P0.5 P0.6 P0.7
R541 0
ENE STOP OCF EXTIF CVBS VDDA2.5 VSSA P2.0 P2.1 P2.2 P2.3 NC1 HS/SSC VS
SDA55xx-100
N501
D5 D0 D7 D6 A0 D7 D6 FL_OE A15 A14 A13 VDD3.3 VSS A10 A3 PSEN ALE_ A7 A6 A11 A5 A4 A3 A2 A1
FL_RST A7 A13 A12 A14 VDD3.3 VSS VDD2.5 FL_PGM A15 A17 A16 A18 A19 NC6 RD_ WR_ NC5 P1.7 NC4 BLANK/COR B G R VDDA2.5 VSSA NC3 XTAL1 XTAL2 NC2
R530 10X4
MCA[13] MCA[12] MCA[14] MCA[15]
R531 10X4
MCA[17] MCA[16] MCA[18]
GAL_MCA19 7
RD_EMU
WR_EMU
RD_EMU 7
WR_EMU 7
R526 100
MUTE 13
F_B
B_uP
G_uP
R_uP
F_B
B_uP 5
G_uP
R_uP
VCC2_5A2uP
C513 100n
33p C511
12M Y501
33p C512
R527 75
N502 W29C040
MCA[11] MCA[9] MCA[8] MCA[13] MCA[14] MCA[17] MCA[16] MCA[12] MCA[7] MCA[6] MCA[5] MCA[4] MCA[10]
MCAD[7] MCAD[6] MCAD[5] MCAD[4] MCAD[3] MCAD[2] MCAD[1] MCAD[0]
VCC
7 GAL_A18
7 GAL_WE_
7 GAL_A15
MCA[15] MCA[18]
R539 0
R506 0
R005 0
VCC
7 GAL_OE_
R542 0
7 EPROM_OE
5V
N503 UT61024JC
MCA[17] MCA[14] MCA[12] MCA[7] MCA[6] MCA[5] MCA[4] MCA[3] MCA[2] MCA[1] MCA[0] MCA[16] MCA[13] MCA[8] MCA[9] MCA[11] MCA[10]
GAL_SRAM_OE_
MCAD[1] MCAD[4] MCAD[2] MCAD[3] MCAD[5] MCAD[0] MCAD[6] MCAD[7]
R545 22
R546 22
7 GAL_SRAM_WE_
13 CVBS_1_
5 13CVBS_3
R540 0
R543 0
VCC2_5A1uP
C501 100n
VCC2_5A1uP
R535 4.7K
R536 4.7K
R507 1.5K
R508 1.5K
R538 100
R529 100
R510 1.5
R511 1.5
13KEYA
13KEYB
13 S_SW2
13 S_SW1
5 HS_VPC
5 VS_VPC
C507 100p
1 RDI
8 LVDSON
10 COUNT
13 REMOTE
13 LCDON
7 GAL_IAP_
1 ALE
1 WRI
1,9 RST_DPTV
R537 100
R516 100
R514 4.7K
R515 100
R509 100
R517 100
R534 100
R544 4.7K
C509 100n
3.3V
3.3V
4.7KX4 RR01
4.7KX4 RR02
1 AD[0-7]
AD[0] AD[1] AD[2] AD[3] AD[4] AD[5] AD[6] AD[7]
R503 10X4
R504 10X4
P0.0 P0.1 P0.2 P0.3 P0.4 P0.5 P0.6 P0.7
1 PS
PS R518 100
RST_P 7
7 GAL_SRAM_OE_
SW0 9
SW1 9
DVIRXPD 11
R513 2.2K
3.3V
BC847AM V502
S_SW11 13
BKLT_PWR 13
R523 100
R524 100
SC1 1,3,8,9,11
SD1
SD1 1,3,8,9,11
BKLT_CNTL 13
3.3V
R525 4.7K
R528 4.7K
3.3V
3.3V
F_B
3.3V V501
BC847AM
R533 36 FB_uP
FB_uP 1,5
R532 330

名称：	SDA5550M	
设计：LZHHeHONG	日期：2004/04/21	
第 6 张	共 13 张	版本：Vers1.0n1.0
XOCECO 厦门华侨电子股份公司 研发中心		